Ocean

QA Software for Barracuda and Piranha

Ocean User's Manual - English - Version 2.4A

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Welcome to Ocean

Ocean is a is a powerful tool for everybody working with Quality Assurance of X-ray systems. Ocean can be used with the X-ray meters Pirahna and Barracuda from RTI Electronics..

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Intended Use of the Ocean Software

Together with instruments from RTI Electronics AB it is to be used for independent service and quality control, as well as measurements of kerma, kerma rate, kVp, tube current, exposure time, luminance, and illuminance within limitations stated below.

If installed according to accompanying documents, the product is intended to be used together with all diagnostic X-ray equipment except for:
- therapeutical X-ray sources.
- X-ray equipment with tube potential below 20 kV.
- X-ray equipment on which the instrument cannot be mounted properly, e.g. equipment where the beam field size is narrower than the active part of the detector.
- specific types of X-ray equipment listed in the instructions for use or in additional information from the manufacturer.

With the X-ray installation in stand-by conditions without patients present, the product is intended to be used:
- to provide the operator with information on radiation beam parameters that might influence further steps in an examination but not an ongoing exposure.
- for assessing the performance of the X-ray equipment.
- for evaluation of examination techniques and procedures.
- for service and maintenance measurements.
- for quality control measurements.
- for educational purposes, authority supervision etc.

The product is intended to be used by hospital physicists, X-ray engineers, manufacturer's service teams, and other professionals with similar tasks and competencies. The operator needs a short training to be able to use the product as intended. This training can be achieved either by careful study of the manual, studies of the built-in help function in measurement software or, on request, in a short course ordered from the manufacturer.

The product is intended to be used inside X-ray rooms ready for clinical use and can safely be left switched on and in any measuring mode in the vicinity of patients.

The product is NOT intended to be used:
- for direct control of diagnostic X-ray equipment performance during irradiation of a patient.
- so that patients or other unqualified persons can change settings of operating parameters during and immediately before and after measurements.

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Chapter 1

Welcome to Ocean

1 Welcome to Ocean

Ocean *is a powerful software for X-ray Quality Assurance work. Use Ocean with the Piranha or Barracuda to significantly increase the quality and efficiency of your X-ray QA process.*

You can set up templates to automate X-ray equipment testing, analyse the test data and store the data, waveforms and analysis results for future reference or re-use.

There are three different levels for Ocean: Display, Connect and Professional.

Display

This mode is used as a "display" for your meter. You can choose the measurements you want, customize your display appearance and save your choices as a template. When you use a template, you will see the measurements, data analysis along with available waveforms on the screen. You can easily recall any template you made when you need it.

Connect

This mode offers everything that Display does, plus the convenience of exporting your data directly into Excel or OpenOffice Calc. You can design your own spreadsheet and Ocean, in this mode, automatically fills out your spreadsheet with the measured values from the meter.

Professional

This mode offers everything that Display and Connect does, plus the possibility to set up templates that perform a complete job for you, including measuring data with the meter, checklists and analyse the data according to the pass/fail criteria you have set up. The data is stored and a report is generated.

1.1 General information

Your meter must have an Ocean license key installed before you can use the software and the Piranha or Barracuda together. When you connect your meter to Ocean the license key is validated and Ocean will show the license level on the main caption bar. There are three license levels available to you: Display, Connect or Professional.

The Display license level is free and you can get a licence from our website at http://www.rti.se/try-ocean-for-free/.

If you purchase the Connect or Professional licence after you purchased the meter, you will receive an installer along with your meter and the licence information will be installed into your meter when you connect Ocean and the meter together the first time. If you purchase Connect or Professional at the same time as you purchase your meter, the meter will come with the licence information permanently installed and no licence key is required.

We have added a 'keyboard mode" feature to Ocean that allows you to use the software without the meter connected to it. It's a great way to create templates right at your desk, or if you need to do some quick testing and don't want to set up the meter, you can just make your measurements and enter the data by hand. Since almost every functionality your licence level offers is available in this mode (except items you can only do while connected to a Piranha or Barracuda), you can experience the power and versatility of this software even if you don't own a Piranha or Barracuda presently. We are confident that once you tried Ocean, you will not only want to use the software but harness it's true potential by purchasing a Piranha or Barracuda as well.

To skip the rest of the information and get started right away, go to the Getting started topic now.

This User's Manual does not contain everything about Ocean. If you need a more detailed knowledge of Ocean's features, please read the Ocean Reference Manual. You can find the Reference Manual on your Product CD under the file name "OceanReferenceManual.pdf".

1.2 Important definitions

The follwoing definitions are important to understand when you use this help text.

Acceptance limits
The pass and fail criteria set up in a test by the user.

Analysis
A calculation done on a selected number of exposures to evaluate the performance of an x-ray generator or other equipment.

Checklist
A checklist is a list containing questions or tasks that is part of the x-ray equipment quality assurance process and done as part of regular preventative maintenance. Acceptable answers are pre-determined and set up by the user.

Equipment
The equipment in a room that is to be tested.

General settings
Set values that are common for the entire test.

Grid
The grid is where all measured data and set values are stored. It consists of a number of columns and rows.

Meter settings
Settings for the Piranha or Barracuda that control meter functions.

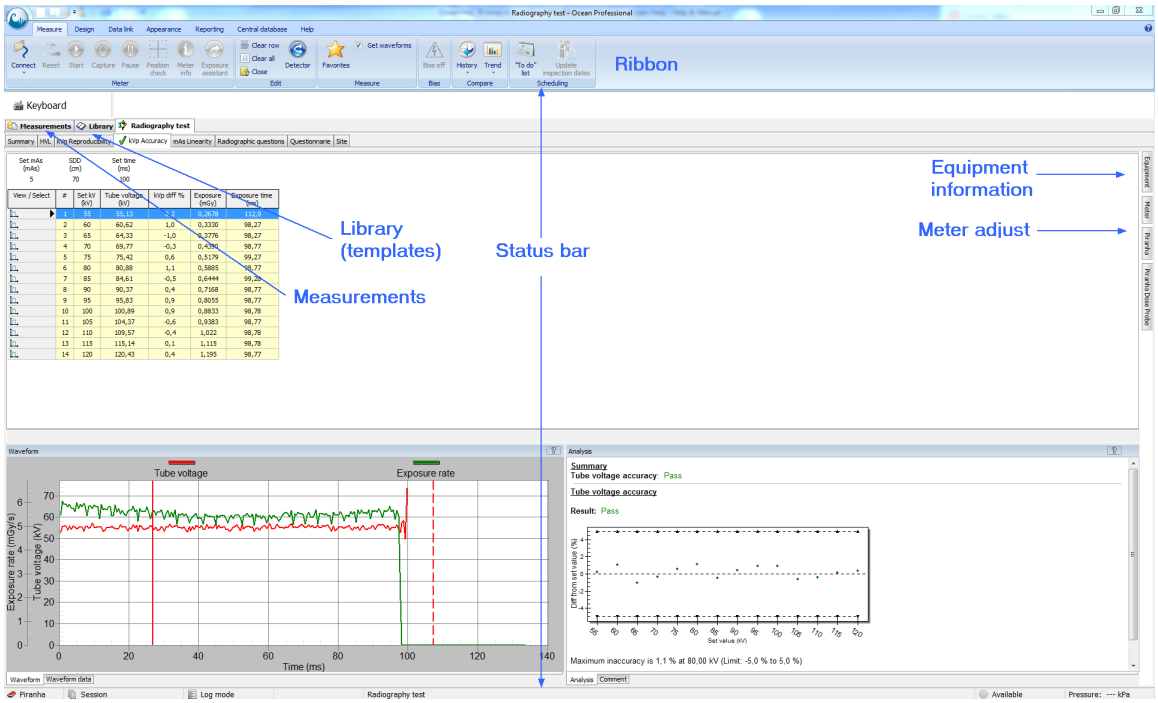
Real-time display (RTD)
The real-time display is a feature used to make quick measurements when data needs to be collected quickly. The data is presented in a series of displays chosen by the user and stored in a log.

Session
A session is specifying a complete job (a preventative maintenance schedule, for example). It normally consists of a number of test protocols (templates) and one or more checklists.

Site
A site is the place where a testing procedure (session) is performed. A site is a facility, department and a room with its equipment.

Template
A template is a session, test, checklist or real-time display without any measured data.

1.3 Main screen



Click to enlarge

Here is a picture of the Main screen. There is a lot of information on this screen so make sure you read carefully your menu choices. All key functions are found on the "ribbon" bar for easy access. The ribbon is divided into six tabs and each tab has a collection of similar functions:

Measure - here you will find everything related to measurements (such as detector selection, connect to meter, set bias, get waveforms, etc.)

Design - under this tab you will find all the functions for creating, saving and editing templates

Data link - this tab has the choices for customizing your data link to Microsoft Excel or OpenOffice Calc

Appearance - you can change how things are shown on the main screen with these functions

Reporting - these are all the functions you need to create, edit and print out reports the way you like it

Help - get help

Just below the ribbon and on the bottom of the main screen you find two status bars.

The status bar located just below the ribbon status bar is divided into two parts: the left part indicates what the meter is doing right now and the right part is used to display messages and information.

The status bar located at the very bottom of the main screen shows current meter being used, work mode, battery indicator for the meter and more.

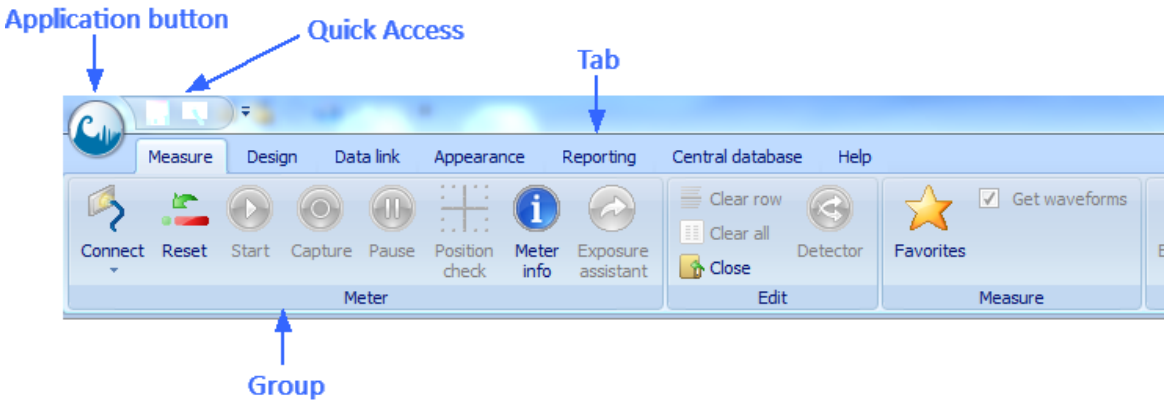
There are two tabs (Measurements and Library) located on the top left of the main screen just below the ribbon.

Measurements - This is where you will find all your measured and saved data. The saved data from the real-time display is also found here. If you are using Professional license, you can also see your facilities, rooms and tubes here with their corresponding data.

Library - This is where all your templates are stored. A template is a "blank protocol" without any measured data recorded.

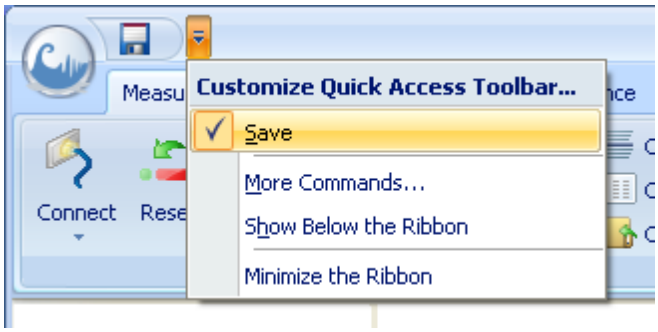
1.3.1 Ribbon

The ribbon is the command bar that organizes Ocean's features for easy access via tabs located at the top of the Main screen window. There are six of these tabs to keep similar functions grouped together. To read what's on the ribbon go to main functions.



Click to compress

There is an **Application button** located on the top left of the Main screen. If you click it, the **Application menu** is shown. There is also a **Quick Access Toolbar** located next to the application button.



Click to compress

You can customize the Quick Access Toolbar to suit your own preference by selecting the **More commands...** option. Use the **Minimize the Ribbon** function if you want to compress the Ribbon. This is especially useful when using a Netbook since the screen height on a Netbook computer is limited.

1.3.2 Status bars

There are two status bars providing information to assist you while working with Ocean.

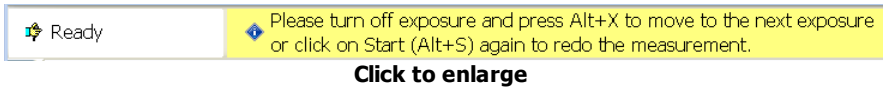
Upper status bar

The upper status bar (Status bar #1) is divided into two sections. The left is used to indicate what the meter is doing right now:

Click to enlarge

While the background is red, don't click on any buttons or make exposures. The meter will not respond to commands while adjusting itself.

The right part shows messages that will guide you in certain situations:


Ready
Please turn off exposure and press Alt+X to move to the next exposure or click on Start (Alt+S) again to redo the measurement.

Click to enlarge

When the background is yellow, Ocean is showing an important message that requires you to take some kind of action. Read the message and follow the instructions.

Lower status bar

The lower status bar (Status bar #2) is divided into five sections:

Click to enlarge

Section #1 (left) shows which meter currently is used

Section #2 shows what you are working on currently

Section #3 shows which working mode you are in currently ("Log mode" is shown when you are recording data and "Design mode" is shown when you are creating/modifying a template)

Section #4 shows the battery status for the connected meter

Section #5 shows the title of the object you are working with currently

Section #6 shows if you are connected to Ocean Central

Section #7 shows air pressure (only Barracuda with EMM-Bias W delivered before March 1, 2012. EMM-Bias W modules delivered after this date doesn't have any sensor and will not report the air pressure.)

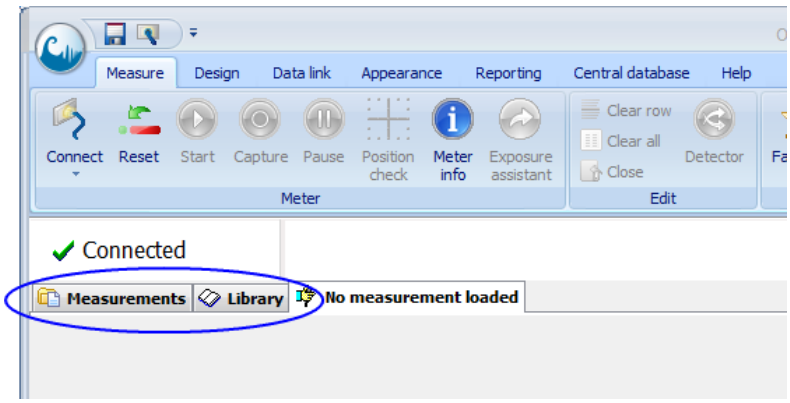
IMPORTANT!
Design mode: If you are working in Design mode, no measured data is saved when you click the save button. Only the empty template is saved in this mode.

Log mode: If you are in Log mode, everything is saved including the measured data.

1.3.3 Database browser

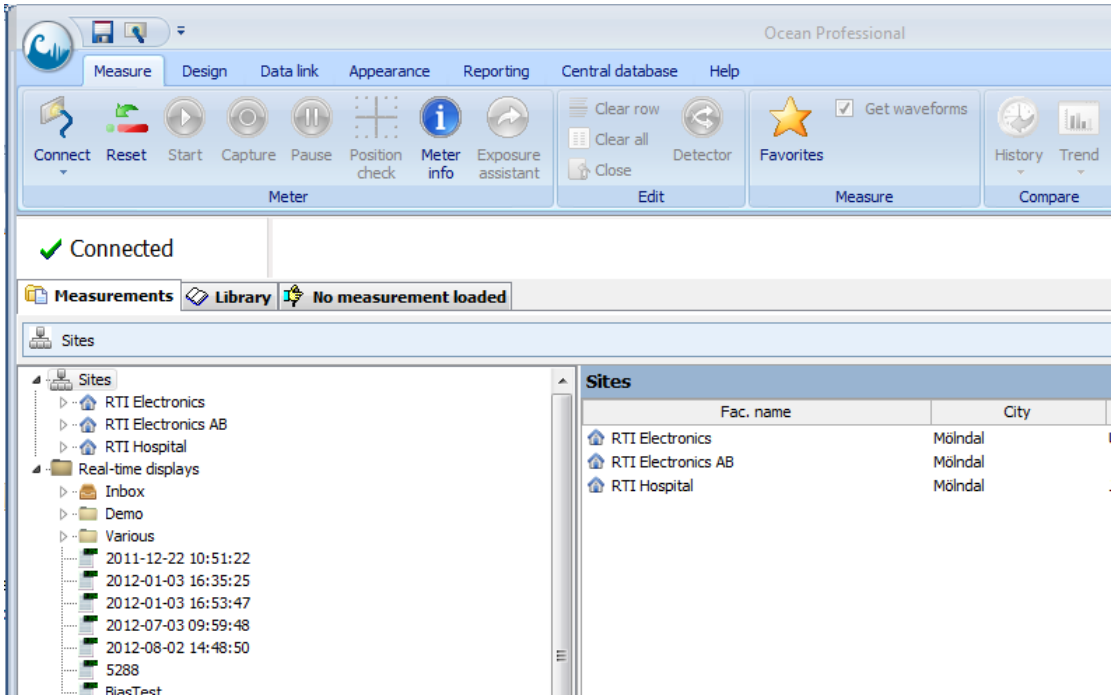
All your data, measured sessions, measured real-time displays and templates, are stored in the database. The database is divided into two main parts, Measurements and Library. In Measurements are measured sessions and real-time displays stored and in the Library are templates stored.

You can browse through your measurements and templates buy clicking on the two tabs Measurements and Library:



Click to enlarge

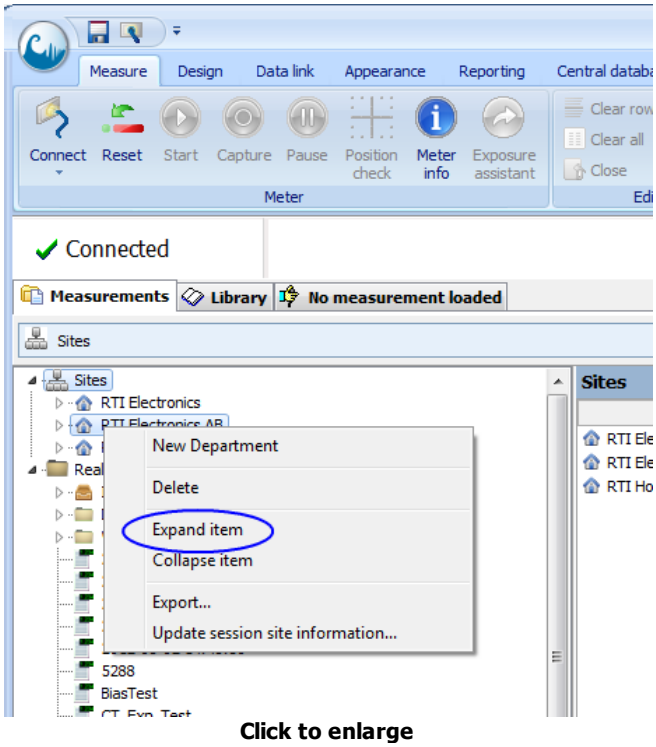
Click on Measurements to browse the measurements:



Click to enlarge

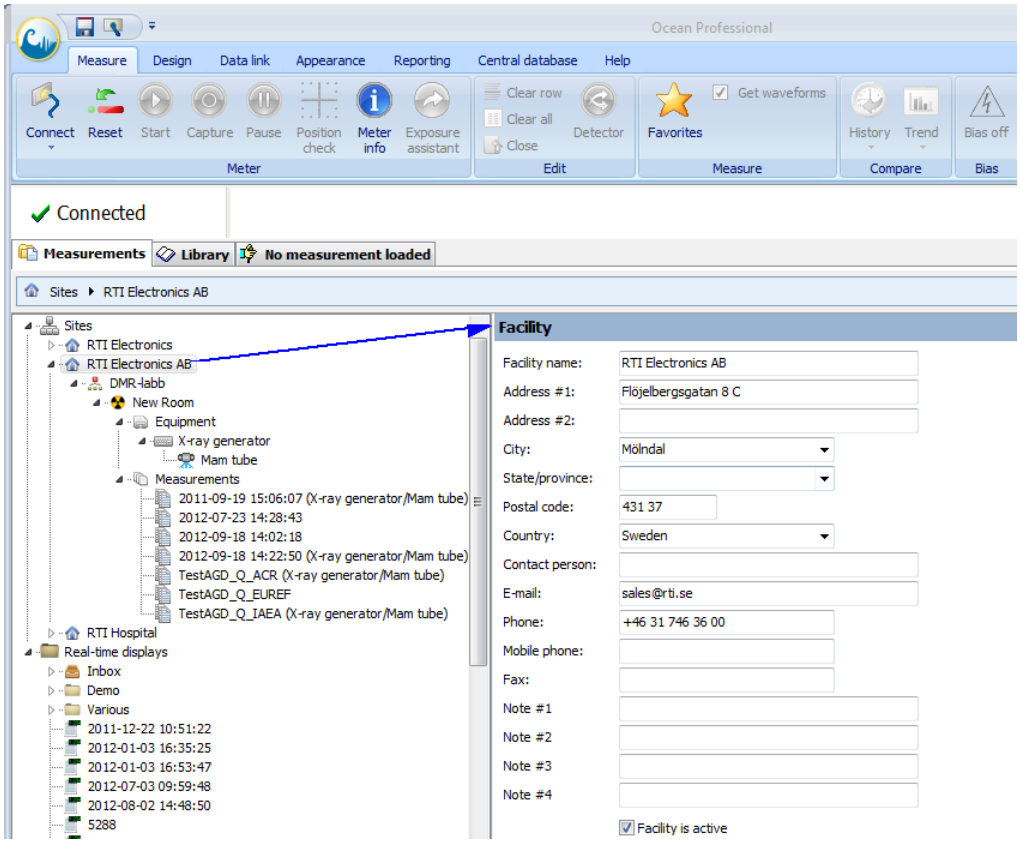
The left part shows the "database tree" and the right part shows the content of the selected "folder". You can browse through templates in the same way. There is a search function available.

You can right-click on a "folder" and select Expand all to open it and all its sub folders:



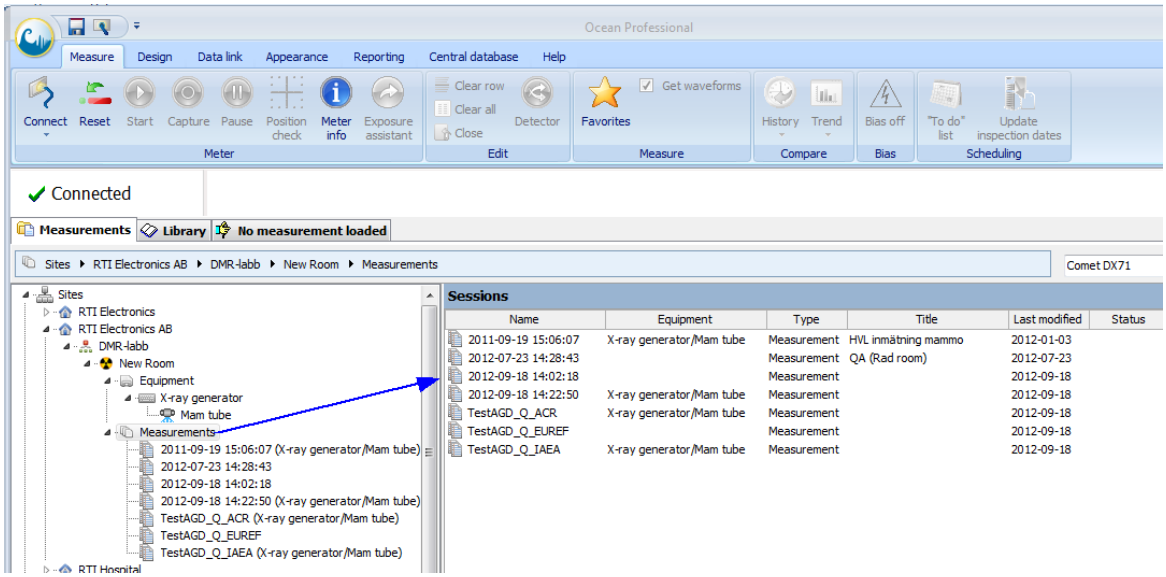
Click to enlarge

If you click in an item belonging to the site (facility, department, room, generator, tube or user-defined equipment) the corresponding details are shown to the right:



Click to enlarge

If you instead click on a folder its content is shown on the right side:



Click to enlarge

1.4 Getting started

To get started, install Ocean on your computer and make sure that your meter has an Ocean license in it. There are three possible license choices: Display, Connect and Professional. The Display is a free license and is already installed in all new units. Older units may not have this license and in this case you can get one from our website at http://www.rti.se/try-ocean-for-free/.

There are two topics describing how to make your first measurement: "Display and Connect" and "Professional". If you are using the Professional license, read both sections, as both are relevant to you

and available for your use. If you use Display or Connect license read the "Display and Connect" section only as this is the only option available for you.

Before using your meter with Ocean, make sure that your Piranha or Barracuda has the latest firmware.

1.4.1 Installation

You must have Windows XP, Window Vista or Windows 7 to run Ocean. Your computer must also have USB port or Bluetooth. Display graphics should be 800X600 or higher.

The Ocean installer is located on the Product CD you received with your Instrument. To install please follow the steps below:

Note! You must have administrator level access to the computer you are installing Ocean on to install the software.

1. Insert the product CD into the CD drive. The CD menu starts automatically (if not, locate and run Start.exe). If you are not installing Ocean from a Product CD, run the file **Setup Ocean.exe**.

2. Move the cursor to **Install** and select Ocean.

3. Follow the instructions on the screen to complete the installation process.

4. When the installation of Ocean is completed, the installer for the **Microsoft Access database engine** starts automatically. Microsoft Access database engine is required to run Ocean.

5. There are two possible scenarios:

You already have Microsoft Access database engine on your computer
If you already have Microsoft Access on your computer, a dialogue will be shown asking if you want to Reinstall/Repair or Uninstall the database engine. You want neither, so click on the Cancel button at the bottom of the dialogue. Confirm that you want to abort and continue.

You don't have Microsoft Access database engine on your computer
If you don't have Microsoft Access on your computer, there is a copy of the database engine included in your Product CD and the installation will be done automatically. Just follow the instructions on the screen to complete the installation.

6. A dialogue is shown when the installation process is complete. Here you can select the "Start Ocean" checkbox and Ocean will start immediately upon closing the dialogue box.

When you run Ocean for the first time a **Start up wizard** will guide you through a series of steps to choose the default settings according to your preference. You will also be asked which meter you have and what you use it for to allow Ocean to load your database with suitable templates and examples. These examples will be placed in Library folders called **Examples (RTI)**. This folder is a system folder and cannot be erased, nor can you erase content from these folders.

1.4.2 Licence for your meter

The license level is stored in your meter. Each time you start Ocean with a meter it adapts to the license level of the currently connected meter. For example, if you have a Piranha with Professional license that you normally use, but you borrowed your colleague's Barracuda with only a Connect license and connected it to your Ocean, when Ocean communicates with the Barracuda, only the Connect license options will be available to you. If you are unsure which level you have, follow the steps below to find out:

1. Power on your meter.

2. Connect the meter to your computer (or make sure that you have a Bluetooth connection).

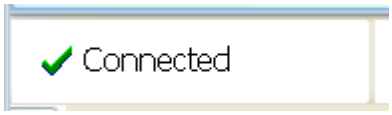
3. Start Ocean. If it is the very first time you start Ocean a "Start-up wizard" will help you get started. Provide the information required by the wizard.

4. A window titled "Select favorite" is now shown. Click Cancel to close it.

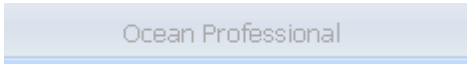
5. Go to the Measure tab on the ribbon and choose Connect.

6. Ocean will now try to connect to your meter. If your meter has a license, the upper status bar below the ribbon will show Connected (see picture below) and you can start measuring. If you meter doesn't have a license, Ocean will ask you to provide one. You can get the free Display license key from our website at http://www.rti.se/try-ocean-for-free/ or contact us to purchase a Connect or Professional license.

NOTE: You cannot use Ocean without a license and if you don't have one, you must abort at this point until you obtain a license key. Once you have a license key, continue from this point by following the steps to load the license key into your meter.



7. Now check the main title bar at the top of the Ocean Main screen and it will show what license level you have:



Depending on what license level you are using, read:

- Getting started with Display and Connect

- Getting started with Professional

1.4.3 Display and Connect

The example below shows how to start a real-time display from the Favorites screen. You can load any real-time display template from the Library tab at any time. Read the topic Start a new real-time display for a complete description of how this is done.

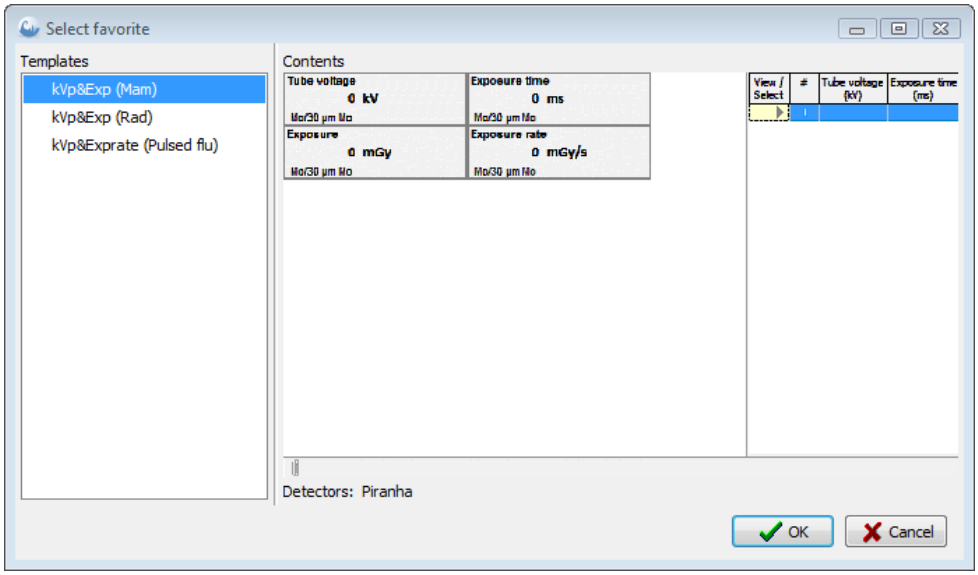
To start a real-time display from the Favorites screen, follow the instructions below:

1. Connect the meter to your computer (or make sure that you have a Bluetooth connection).

2. Power on your meter.

3. Start Ocean. If it is the very first time you start Ocean a "Start-up wizard" will be shown. Provide the information required by the wizard.

4. When the wizard is done, the Favorites window (see below) is shown.

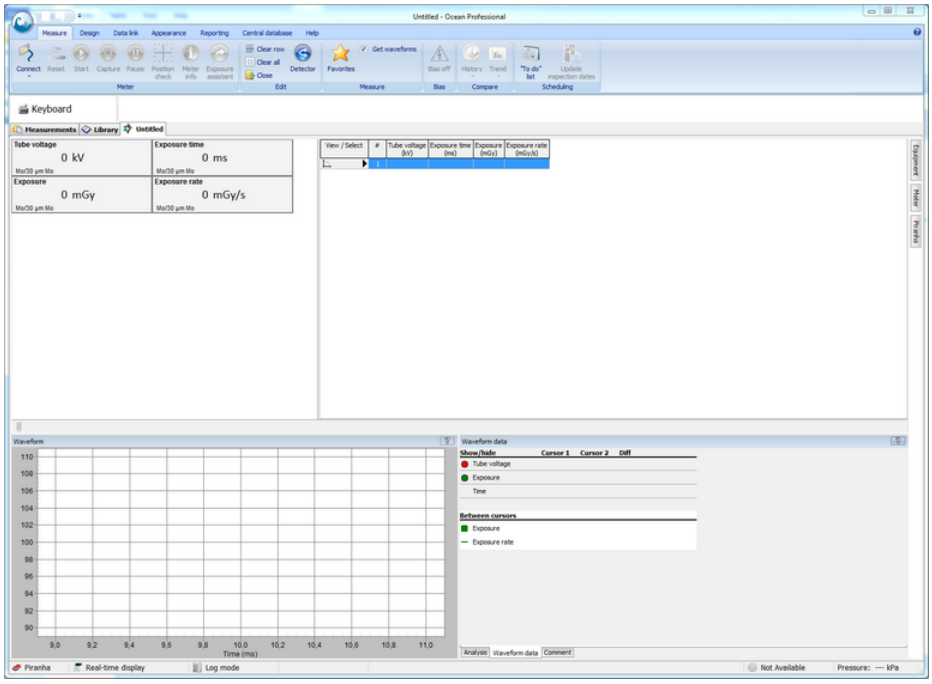


Click to enlarge

5. Select a real-time display suitable for the work you want to do and that is available to your meter. You will see the available choices on the left side of the screen under the "Templates" heading (see picture above).

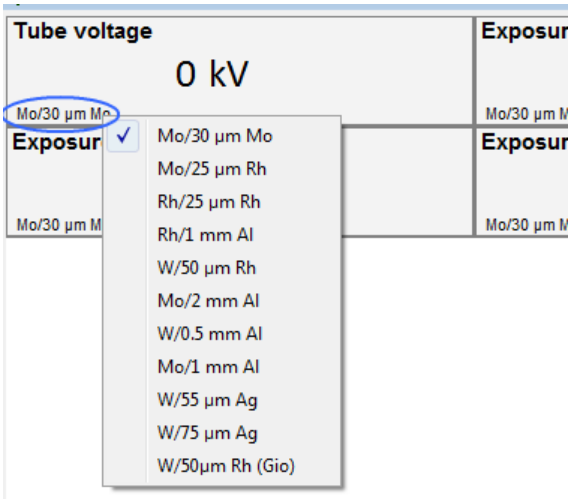
6. Click OK.

7. Ocean will now connect to your meter and load the chosen real-time display.



Click to enlarge

8. If you are measuring on mammography or CT you may want to select another calibration. The calibration shown is in the lower left corner of the display. Click on it if you want to change it:



Click to enlarge

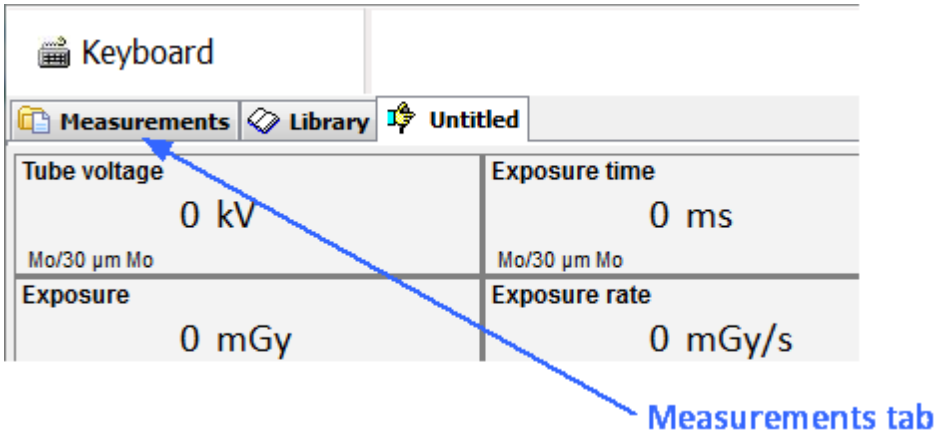
9. You are now ready to make an exposure.

10. When the exposure is finished, the results will be shown in the displays and a waveform will be shown in the waveform window on the bottom left of your screen.

11. You can continue making exposures one after another until your task is complete.

12. Click on the save button when you are done (on the Quick Access Toolbar or on the Application menu) to save your work. You will be asked to specify a name for the measurements you have just completed.

13. Your work is now saved in the database. If you want to see it again later, you can look for it under the Measurements tab to the right of the displays.



You can load any template from the Favorites screen by clicking on the Favorites button, or from the Library tab located to the left of the displays. Read more about real-time displays by clicking on the links below:

- How to start a new real-time display - click here...
- How to design a real-time display template - click here...

1.4.4 Professional

This example shows how to start a session from the Favorites screen. You can load any session or real-time display template from the Library tab. Read Start a new session for a more detailed description of this topic. To read more on how to start a real-time display, go to the Display and Connect topic.

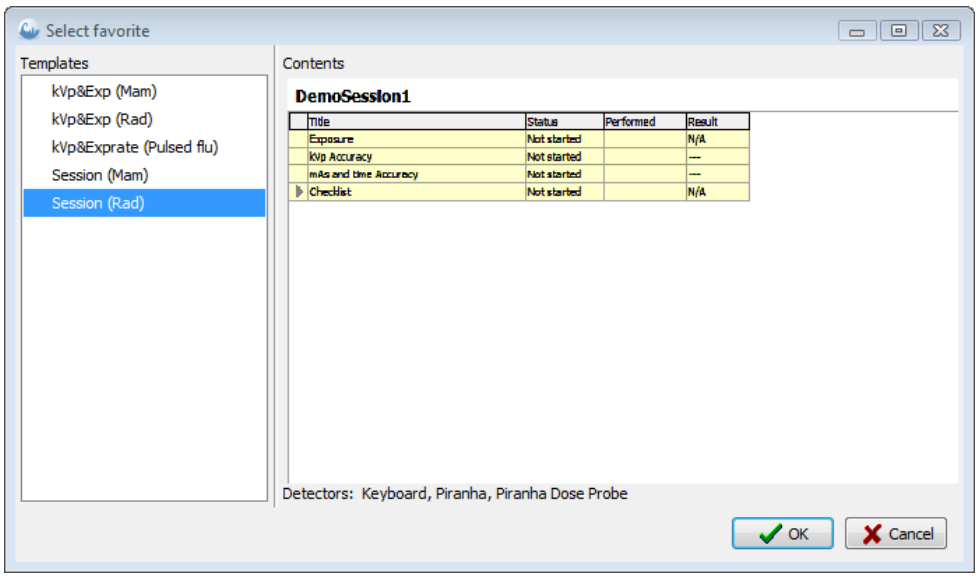
To start a session from the Favorites screen follow the steps as described below:

1. Power on your meter.

2. Connect the meter to your computer (or make sure that you have a Bluetooth connection).

3. Start Ocean. If it is the very first time you start Ocean a "Start-up wizard" will be shown. Provide the information required by the wizard.

4. When the wizard is done, the Favorites window (see below) is shown:



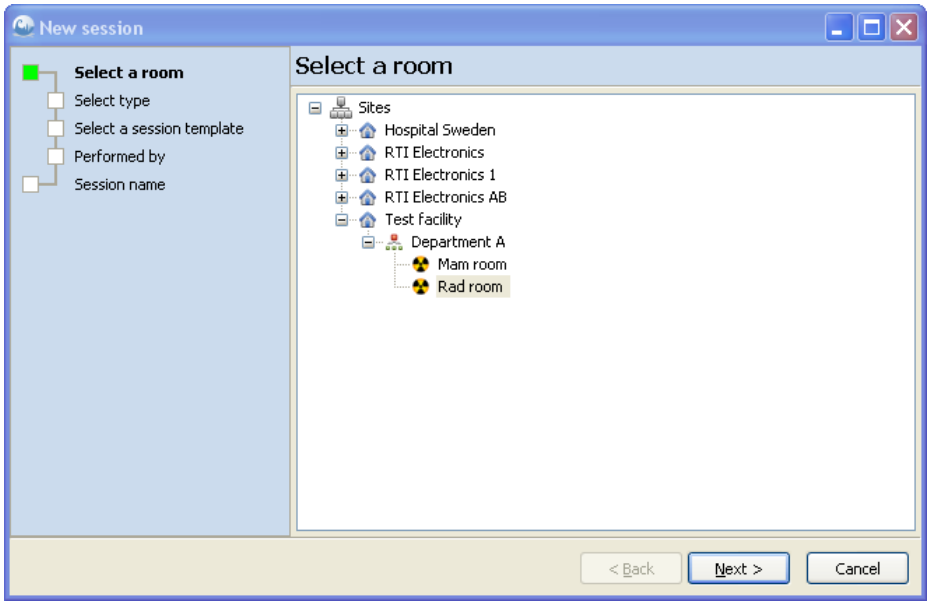
Click to enlarge

5. Select a session suitable for the work you want to do and that is available to your meter. You will see the available choices on the left side of the screen under the "Templates" heading (see picture above).

6. Click OK.

7. Ocean will now connect to your meter and load the chosen session.

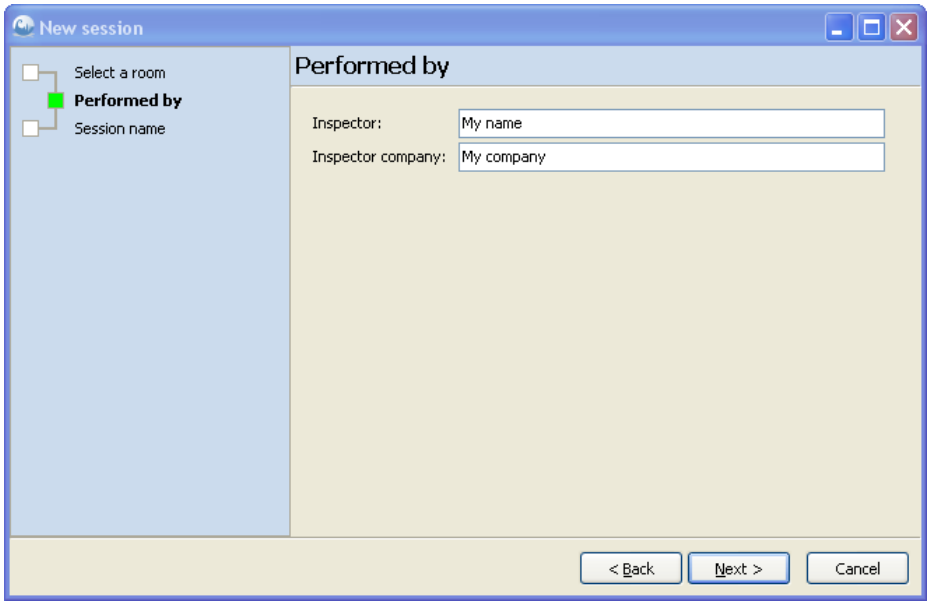
8. The first thing you will be asked to do is to specify a site (a hospital or medical clinic) where this session will be used. If this is the first time you use Ocean, there will be no available sites so you will need to create a site, department, room and equipment. To learn how to create a new site read the topic New site. We have added a "test site" for you to try out the different features Ocean has to offer, and for this example, click on the "Test facility". There is only one department, so select "Department 1". Finally, select a suitable room (for this example, choose the "Rad room").



Click to enlarge

9. Click Next to continue.

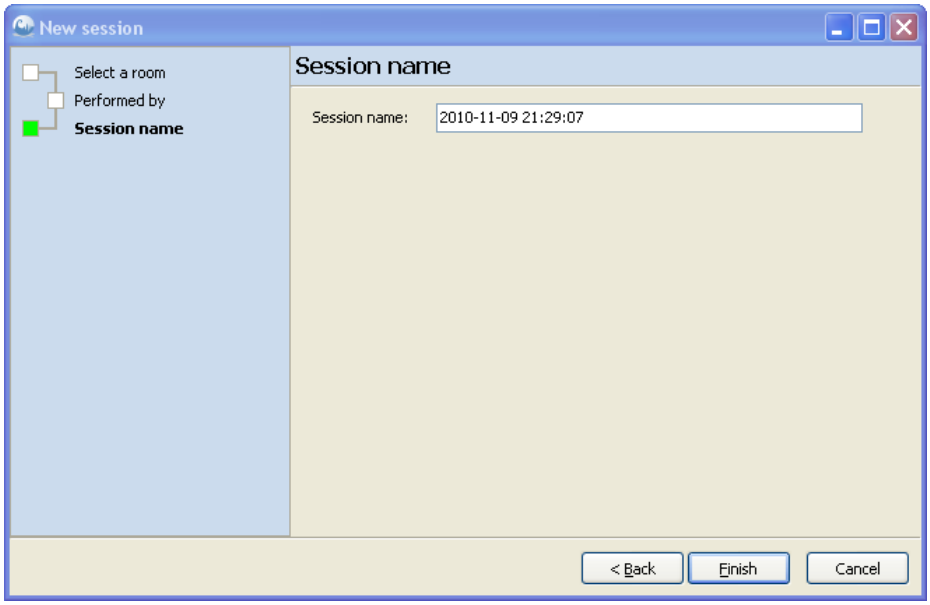
10. You are now asked to provide your name and the organization name you work for (company). If you ran the start-up wizard previously, this information would already be filled out.



Click to enlarge

11. Click Next to continue.

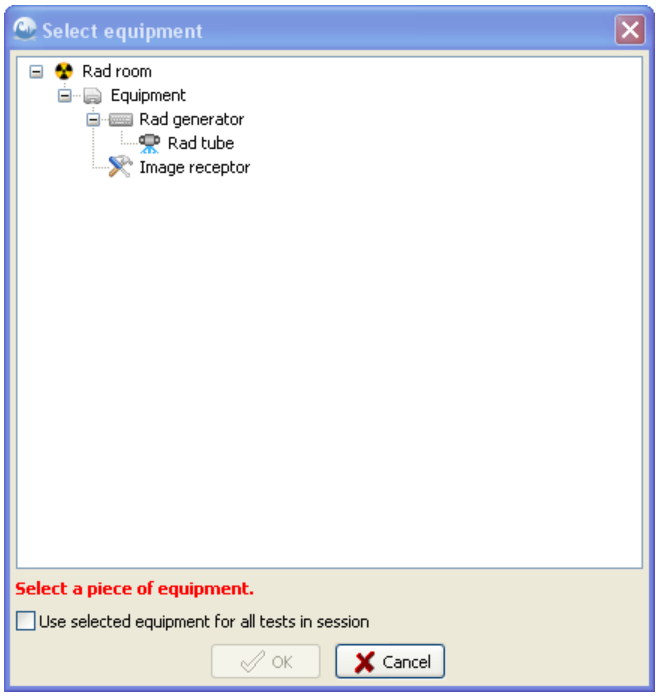
12. You need to specify a name for your session (the default name is a date and time stamp) For this example, just leave the name at the default setting.



Click to enlarge

13. Click Finish.

14. You have now opened the session. When you open a session Ocean will automatically start you off with the first test in the session. Before you can start making measurements, you will need to select the equipment you will be testing. To learn more about how to add new equipment to a site, read the Add more departments and rooms topic of this manual.

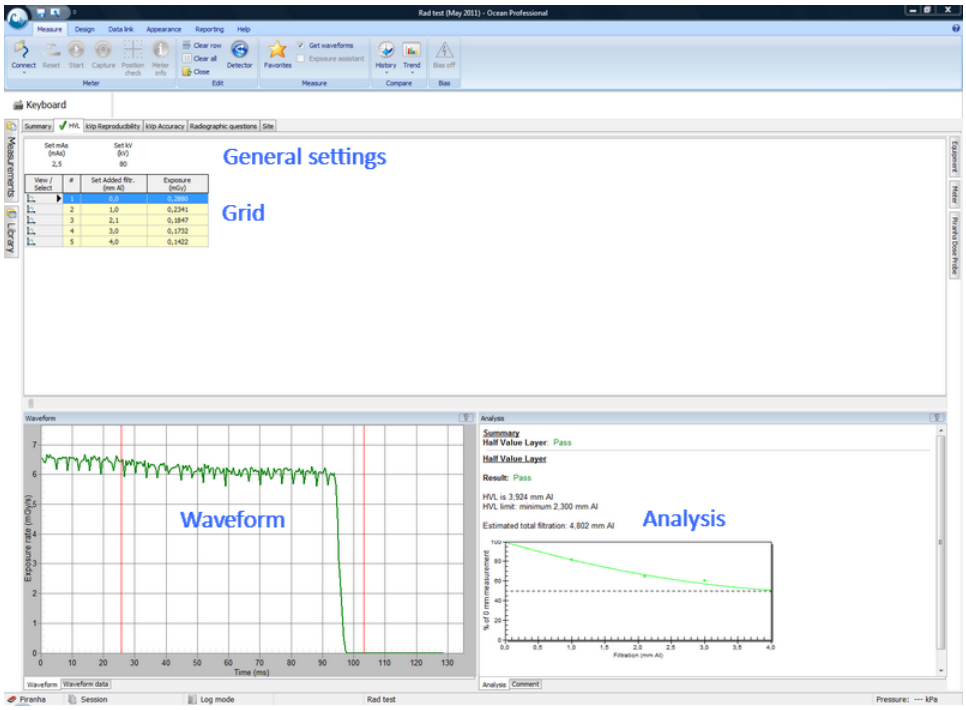


Click to enlarge

15. For this example, choose the "Rad tube" and click OK.

16. The first test in the session (in this case the HVL test) is activated and your cursor is positioned on the first row in the grid. You are now ready to make exposures according to the conditions specified in the test.

17. As you make your exposures, you will see measured data appearing in the grid along with the corresponding waveforms in the waveform window to the bottom left of the grid and the analysis will appear in the analysis window next to the waveform window.



Click to enlarge

18. Click on the save button to save your measurements. You don't need to choose a name here, since we left the session name at the default date and time stamp earlier.

You can load any template from the Favorites screen by clicking on the Favorites button, or from the Library tab located to the left of the displays. Read the topics below for more information:

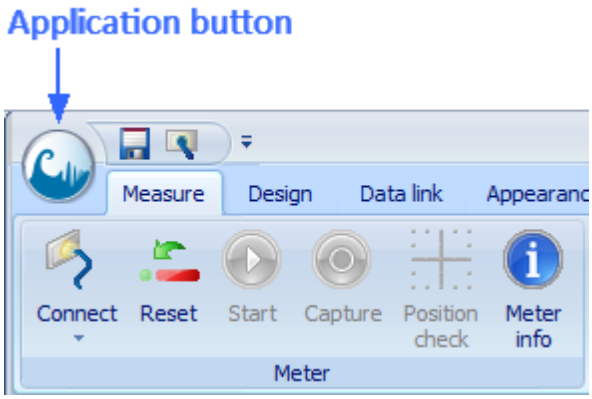
- How to start a new session - read the topic Start a new session
- How to design a test template - read the topic Design a test template
- How to design a checklist template - read the topic Design a checklist template
- How to design a session template - read the topic Design a session template

Chapter 2

Application menu

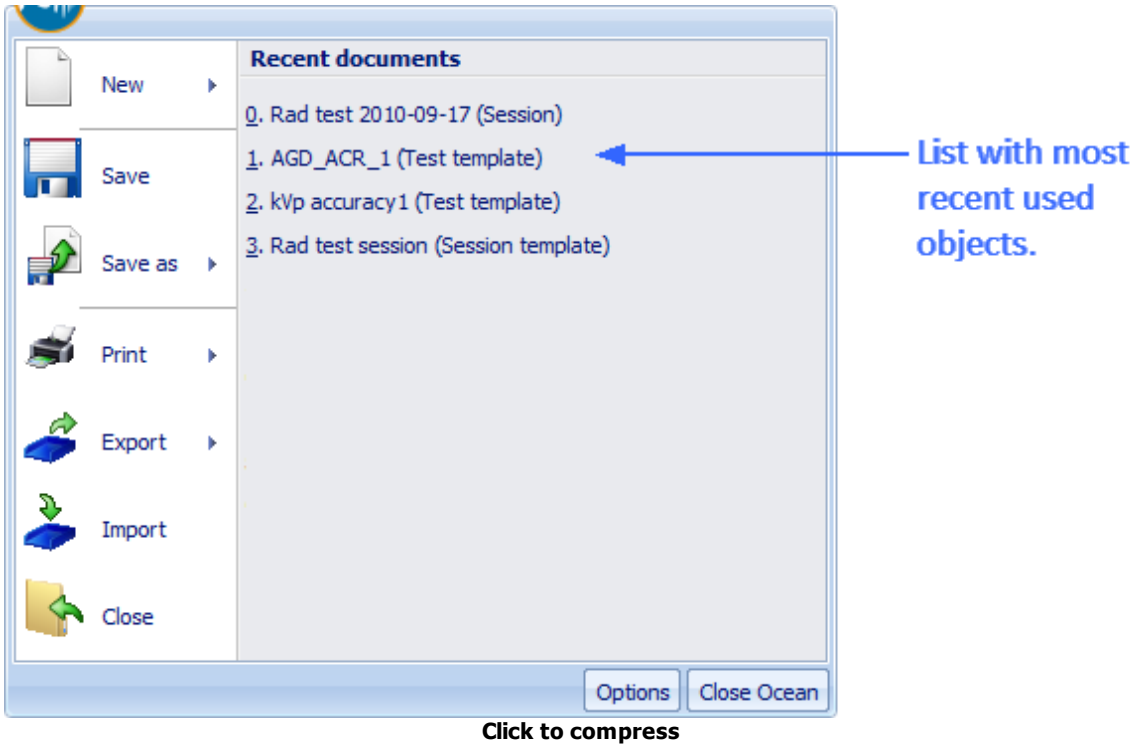
2 Application menu

You can access the Application menu by clicking on the Application button (see picture below) located at the upper left corner of the Ribbon bar.



Click to compress

The Application menu offers quick, convenient access to the most frequently used commands such as New, Save, Import, Export, etc. and the most recently used files (see the picture below).



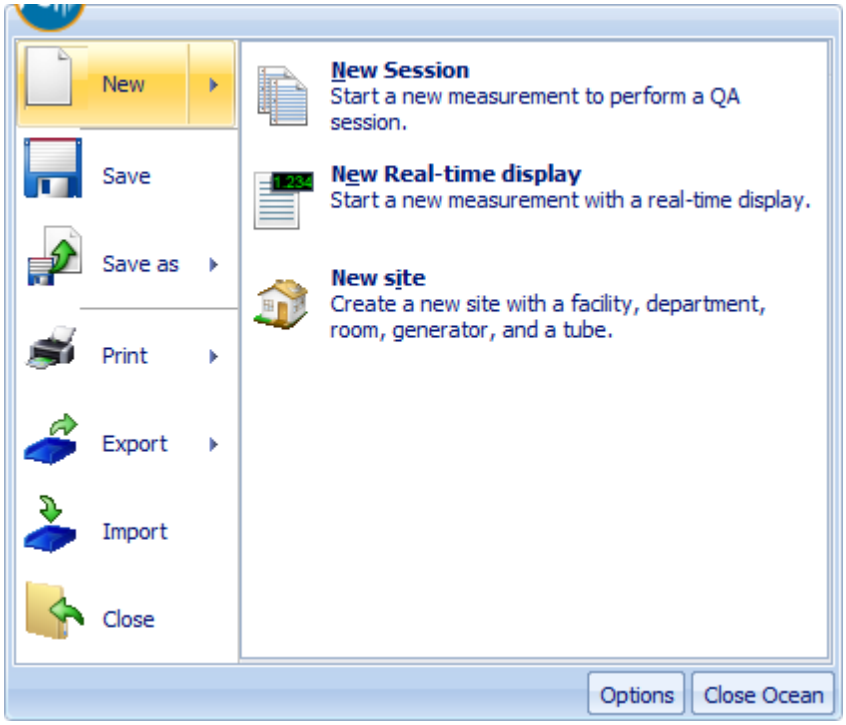
Click to compress

You will find the following functions on the Application menu:

New	Start a new session, real-time display or site
Save	Save what you currently is working with
Save as	Make a template of the current job or rename existing objects
Print	Print current job
Export	Export sessions, tests, checklists or real-time displays to a file (use this to share data with others)
Import	Import sessions, tests, checklists or real-time displays from a file (use this to receive data from others)
Close	Close current job

2.1 New

The **Save** function is located on the Application button drop-down menu. You can use **New** three ways:



Click to compress

New Session - Start a new QA session

Use this function when you want to start a new QA session for a certain room. The new session wizard will appear and will help you create the session. The wizard will ask you to:

- Select the facility, the department and the room where you perform your job
- Select the session template you want to use
- Specify your name and your organization (data from setup is used as defaults)
- Specify a name for your job (the name used when the job is saved in the database)

When the wizard finishes the session is created saved under the **Measurements** tab for the new room you just created.

Read more here...

New Real-time display - Start a new real time display

Use this function when you want to start making measurements with a new real-time display. The

real-time display wizard will appear and will help you create the real-time display. The wizard will ask you if you want to use an existing real-time display template or create a new real-time display from scratch. If you chose to create a new real-time display, the wizard will ask you to:

- Select modality
- Select displays, detectors and calibrations
- Specify where you have connected the detectors (only for Barracuda)

Once the wizard finished, you can start making measurements right away if your meter is connected to the computer. The data from each exposure is shown in the displays and stored in the table. A new row is automatically created in the log for every new exposure (if the cursor is located on the last row). If you need to change meter settings use the **Meter Adjust** function to the right in the main window.

New Site - Create a new site (facility/department/room/generator/tube)

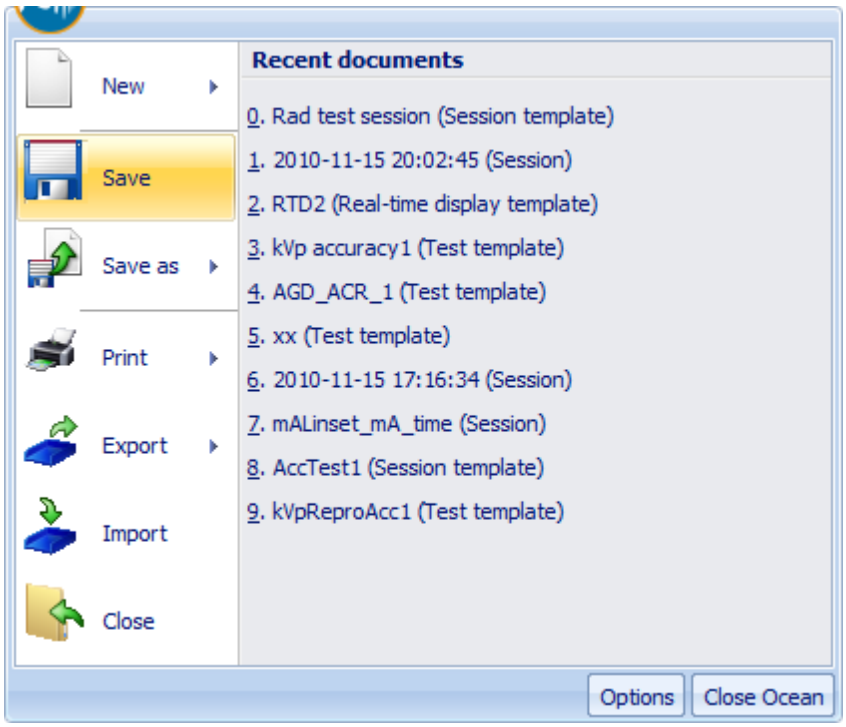
Use this function when you want to add a new site. The new site wizard will appear and will help you add the new site. The wizard will ask you to:

- Specify a facility (name, address, phone number, contact person, etc.).
- Specify a department (name, etc.).
- Specify a room (name, room ID etc.).
- Specify a generator (name, manufacturer, model, serial number, etc.).
- Specify a tube (name, manufacturer, serial number, etc.)

When the wizard finishes, you will be able to view your new site under the **Measurements** tab. The generator and tube is located under the **Equipment** tab.

2.2 Save

The **Save** function is located on the Application button drop-down menu. You can use this to save your current work. What is saved depends on what you are working on at the time you press **Save**.



Click to compress

Working with an opened session

When you press **Save** you the session is saved with the measured data to the same location and name. It is not possible to change the location of the session using this function. If you want to change the location, you must first close the session and then move it by using the drag-and-drop feature of the database tree. If you want to save the session as a template (no measured data) use **Save as** function.

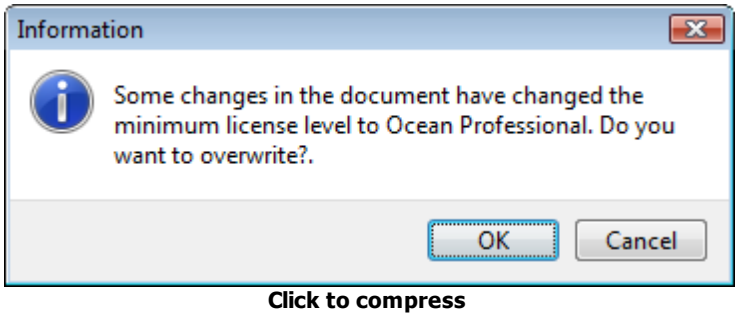
Working with a real-time display

When you press **Save** the real-time display is saved to the same location and name under the **Measurements** tab. You will be asked to choose a name and location if this is the first time the real-time display is saved. It is not possible to change the location of the real-time display using this function. If you want to change the name and/or location, you must first close the real-time display and then move it by using the drag-and-drop feature of the database tree. If you want to save the real-time display as a template (no measured data) use **Save as** function.

Working with a template

When you press **Save** the template is saved (no measured data). You will be asked to specify a name and location if it is a new template. If you want to change the name and/or location, use the **Save as** function.

The following message may be displayed when you go to save your work:


Information
Some changes in the document have changed the minimum license level to Ocean Professional. Do you want to overwrite?.
OK
Cancel

Click to compress

It means that minimum license required to re-open the object changed (became more restrictive). You may see this message if:

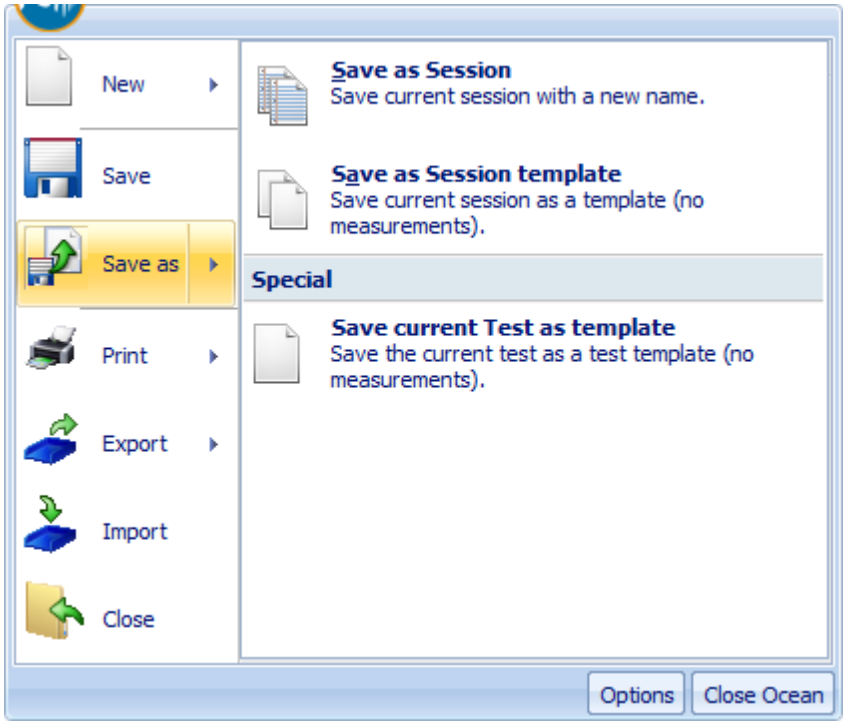
- you use different meters with different Ocean licenses (Display, Connect or Professional) with the same Ocean.
- you start a trial period to test a higher license than you currently have.

2.3 Save as...

The **Save as** function is located on the Application button drop-down menu. You can use this function to do the following:

- Rename an object (real-time display, session or a template).
- Change the location of an object (not for sessions).
- Change the object type (toggle between template and measurement types). For example, you can use this function if you have a session that you wish to make into a template, or vice versa.
- You have the option of saving a test or checklist as a separate object to be included in your future sessions.

Save as functions available while working with sessions



Click to decompress

Save as a Session
If you use Save as to rename a session, it will create a copy of the existing session and all future work will be saved in the new copy. The new copy will be saved in the same site and room where the original session was located. It is not possible to change the location of the new copy using this function. If you want to change the new copy location, you must first close the session and then move it by using the drag-and-drop feature of the database tree.

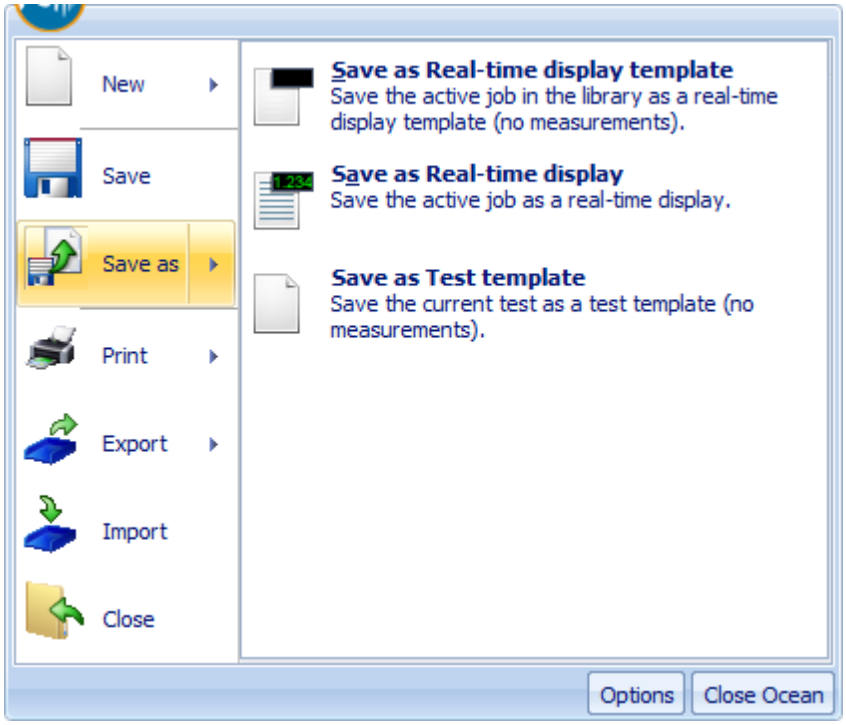
Important: Please make every effort to save the session to the correct site and room, before you use it. Once a session is used in a certain room and on a certain tube, the equipment information is stored in Ocean and when you move it to a new room, the equipment information from the old room will be moved to the new room as well. This can cause significant problems for you, as no two rooms of equipment is identical. The room and equipment data is used by Ocean to determine what measurements are available to you and, as a result, you may not be able to use certain tests in the session and the test results that you get on other tests may not be accurate.

Save as Session template
You can use Save as Session template if you want to rename an existing template or if you have a session open that you are working on, you can use this function to save it as a template in the **Library**.

Save current Test as template
You can use Save current Test as template if you want to pick out one individual test of a session or session template and save it for future use as a test template in the **Library**. You can then use this test template in other session templates as well.

Save current Checklist as template
You can use Save current Checklist as template if you want to pick out one individual checklist of a session or session template and save it for future use as a checklist template in the **Library**. You can then use this test template in other session templates as well.

Save as functions available while working with real-time displays



Click to compress

Save as a Real-time display
If you use Save as a Real-time display to rename and/or change the location of a real-time display, it will create a copy of the existing real-time display with all of its measured data and all future work will be saved in the new copy.

Save as a Real-time display template
You can use this in two different situations:

- If you use Save as a Real-time display template to rename and/or change the location of a real-time display template, it will create a copy of the existing real-time display template (without measured data) and all future work will be saved in the new copy at the location you chose.
- You can also use this function if you are making measurements in a real-time display and want to save the real-time display you are working on as a template (no measured data) in the **Library**. All further work will be saved as a real-time display template (no measured data) in the new copy.

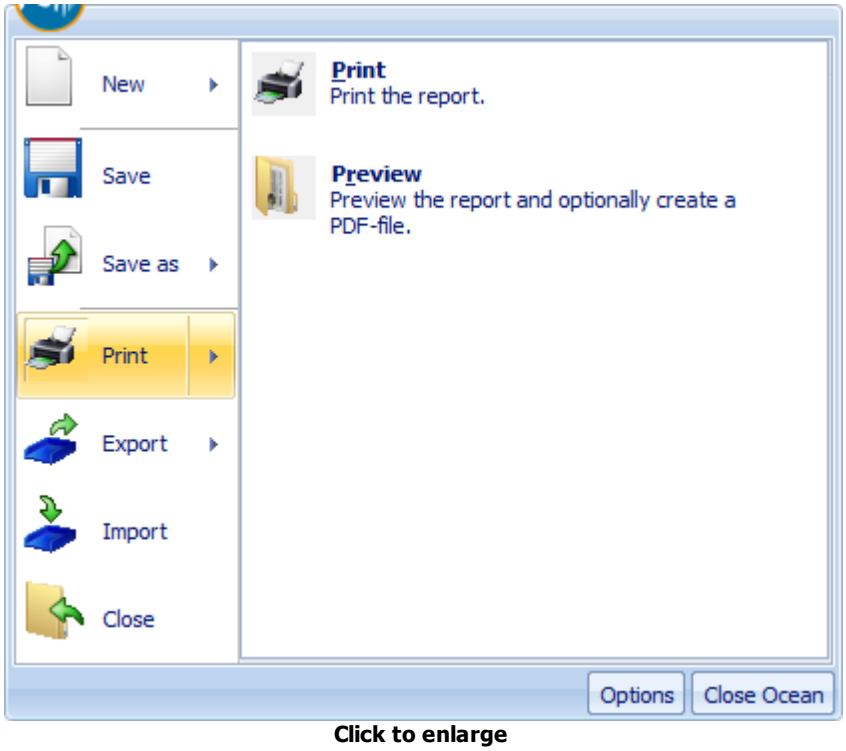
Save as a Test template
You can use Save as a Test template to convert a real-time display to a test template and save it in the **Library**. Any measured data will not be saved and future work will be saved in the test template.

Save as function while in Design mode

Use Save as if you want to rename or change the location of a template you are working on currently.

2.4 Print

This function is used to **print** your current work. You can print on a printer or create PDF files.



Click to enlarge

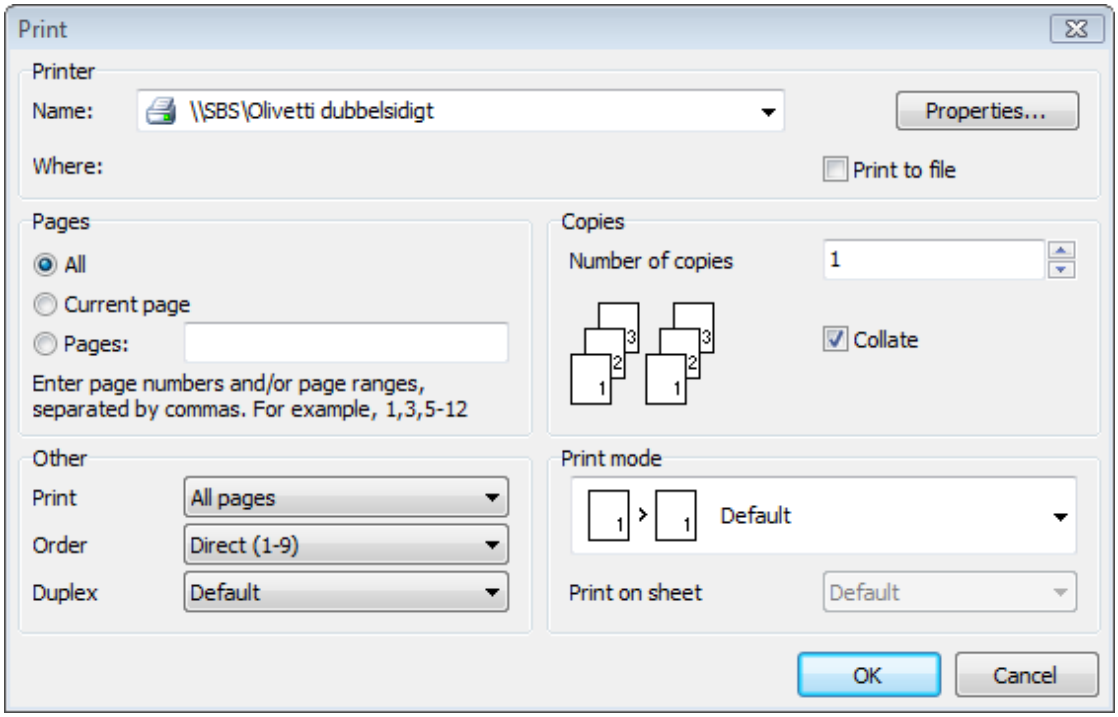
You can print or preview the following:

- Complete reports - if you are working with a session, the complete session is printed/previewed complete with a cover sheet, including all tests (with waveforms if so chosen) and checklists.
- Real-time display - the real-time display currently open in Ocean is printed.
- A test or a checklist during design work - we added this feature to allow you to print out the templates you are working with during design.

NOTE: You can only print or preview one item at a time.

Print

It is important to remember that this function prints the current session/template you are working on and is open in Ocean. The print dialogue (see picture below) is shown when you choose the print function from the drop-down menu on the Application button:



Click to compress

You can select the following:

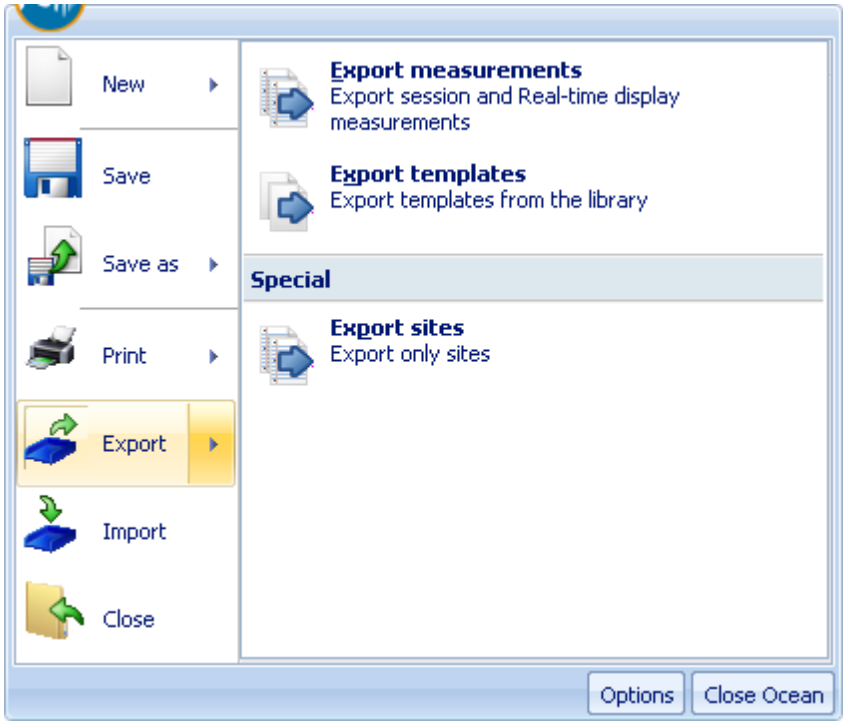
- the printer you want to use and set its properties
- which pages to print
- number of copies

Preview

The preview function can be found by hovering your mouse cursor over the print function in the drop-down menu on the Application button. Choose the preview option if you want to check your work before printing. You are able to print directly from the preview window, or you do have the option to store your work in a PDF file. If you choose to create a PDF file, a file save dialogue is shown, allowing you to give a name to your work and to specify a destination anywhere on your computer, network or mobile media.

2.5 Export

This function is used **export** items (sessions, real-time displays and templates) to an external file or via e-mail as an attachment. The export and import functions enable you to easily share your work with your colleagues and regulatory authorities.



Click to minimize

There are three types of Ocean data you can export:

1. Measurements - (.ome) files
2. Templates - (.ote) files
3. Sites - (.ome) files

The files are identified by the following icons:

Exporting measurements

Use this type of export when you want to export measurements; sessions and real-time displays.

To begin the export process, click on the Application button, then hover the mouse over the export function from the drop-down menu (see picture above). You will be offered three choices (export measurements, export templates and export sites). To export measurements, follow the two easy steps as described below:

Step #1

When you select the "Export measurements" option a wizard starts automatically to allow you to select the items you want to export. Select all items you wish to export. You can select individual measurements or right click on a folder and select "Export...". In the later case, all measurements in that folder and below will be selected for export. Click on the Next button to continue.

Step #2

Once your selection is made, the next screen will offer you a choice between creating a file only, or send the export directly to another Ocean user as an e-mail attachment. You can also add an optional message to your file for the user or regulatory authority to whom you are sending the data. This message will be shown when the user imports the data.

Click Finish when you are ready and the export file will be generated with an ".ome" extension and you will be asked to choose a file name and location to store the file. If you chose the option to send the file via e-mail, your e-mail program will be opened and a blank e-mail started with the ".ome" file added as an attachment. All you have to do now is to complete the e-mail and then send it.

Exporting templates

Use this type of export when you want to export templates; sessions, tests, checklists and real-time displays.

To begin the export process, click on the Application button, then hover the mouse over the export function from the drop-down menu (see picture above). You will be offered three choices (export measurements, export templates and export sites). To export templates, follow the two easy steps as described below:

Step #1

When you select the "Export templates" option a wizard starts automatically to allow you to select the items from your library that will be exported. Select all items you wish to export. You can select individual templates or right click on a folder and select "Export...". In the later case, all templates in that folder and below will be selected for export. Click on the Next button to continue.

Step #2

Once your selection is made, the next screen will offer you a choice between creating a file only, or send the export directly to another Ocean user as an e-mail attachment. You can also add an optional message to your file for the user or regulatory authority to whom you are sending the data. This message will be shown when the user imports the data.

Click Finish when you are ready and the export file will be generated with an ".ote" extension and you will be asked to choose a file name and location to store the file. If you chose the option to send the file via e-mail, your e-mail program will be opened and a blank e-mail started with the ".ote" file added as an attachment. All you have to do now is to complete the e-mail and then send it.

Exporting sites

Use this type of export when you want to export sites. It exports all site information (facility, departments, rooms and all equipment).

To begin the export process, click on the Application button, then hover the mouse over the export function from the drop-down menu (see picture above). You will be offered three choices (export measurements, export templates and export sites). To export sites, follow the two easy steps as described below:

Step #1

When you select the "Export sites" option a wizard starts automatically to allow you to select the facilities. Select all items you wish to export. Click on the Next button to continue.

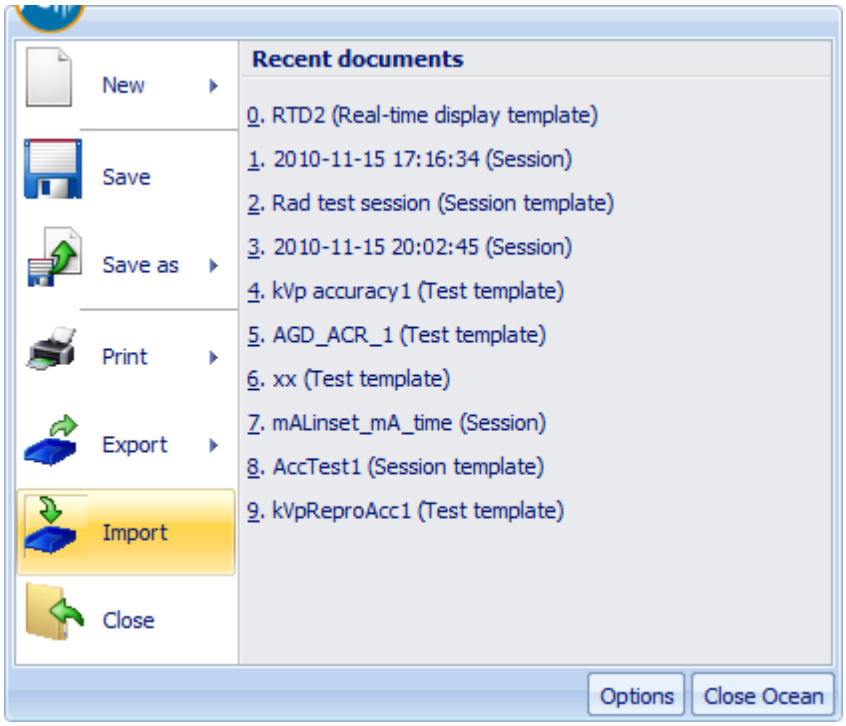
Step #2

Once your selection is made, the next screen will offer you a choice between creating a file only, or send the export directly to another Ocean user as an e-mail attachment. You can also add an optional message to your file for the user or regulatory authority to whom you are sending the data. This message will be shown when the user imports the data.

Click Finish when you are ready and the export file will be generated with an ".ome" extension and you will be asked to choose a file name and location to store the file. If you chose the option to send the file via e-mail, your e-mail program will be opened and a blank e-mail started with the ".ome" file added as an attachment. All you have to do now is to complete the e-mail and then send it.

2.6 Import

We added the **Import** function to give you the opportunity to share your work with other Ocean users. This is especially helpful in large organizations where more than one person is working on equipment at a site. To begin the import process, click on the Application button, then select the import function from the drop-down menu (see picture below):



Click to minimize

Import from the Application menu

After you selected Import, a dialogue box will appear to help you select the files you want to import. If you wish to exclude certain files from the import, just uncheck the item by clicking on the checkbox in front of the item. There are two types of Ocean files you can import:

(.ome) files -- these are the measurements

(.ote) files -- these are the templates

Once you made your selection, click Open. A new dialogue box is now shown with the number of items selected for import, the file type (such as session or real-time display) and the destination path.

When you finished making the choices for import, click the Finish button to complete the process.

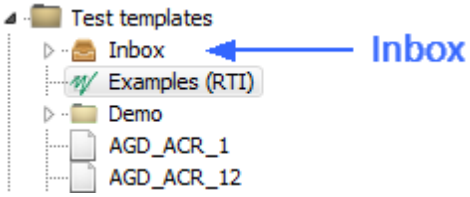
Import directly from Windows

You can now import a file directly from Windows by double-clicking on the file. For this example, let's assume that we have a file with measurements or templates on the desktop:

When we double-click on the file icon, Ocean will start up and will automatically begin the import process.

Destination

- The **templates** are imported into the "templates" inbox and **real-time displays** are imported into the "real-time display" inbox.

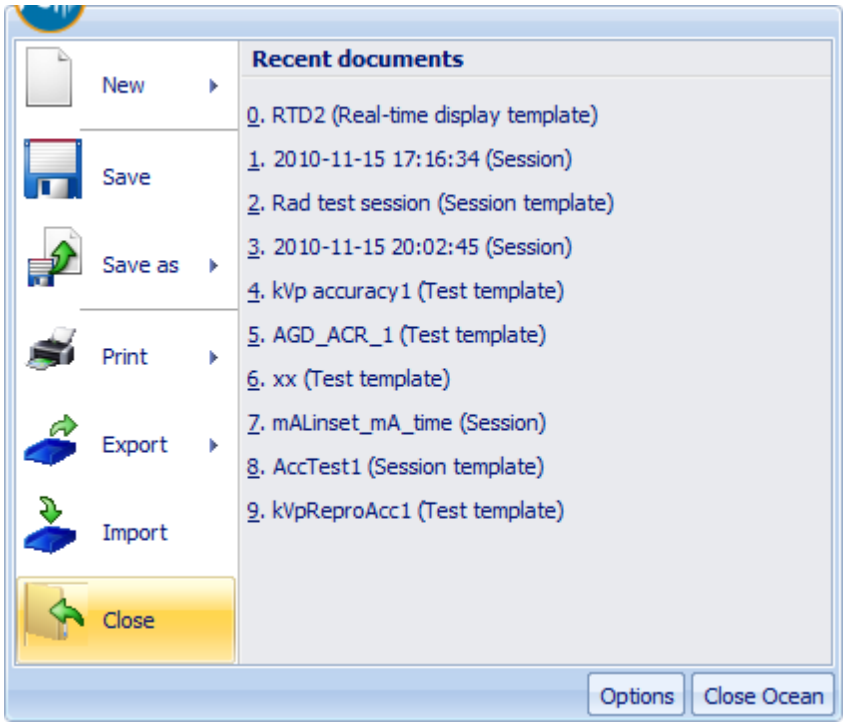


- **Sessions** are imported into the facility/department/room they belong to. If the site doesn't exist on our computer, Ocean will give the choice to create the site or skip the item from the import list.

2.7 Close

Click on this button if you want close what you currently are working with.

NOTE: The Close button will only close the current job you are working on but it will not exit Ocean.

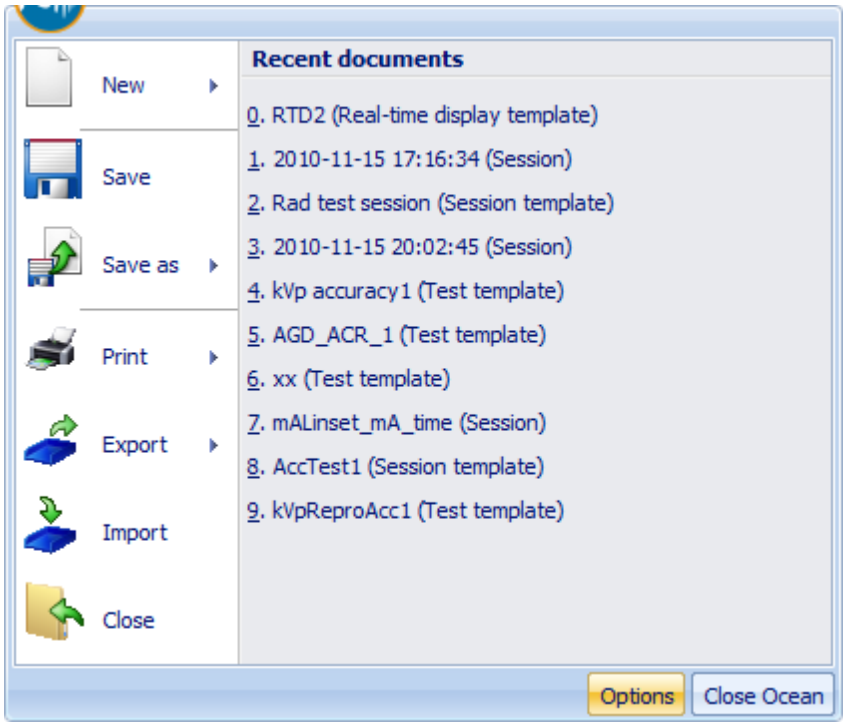


Click to compress

If you have unsaved work while trying to close the current task, you will be given the choice to save and then close.

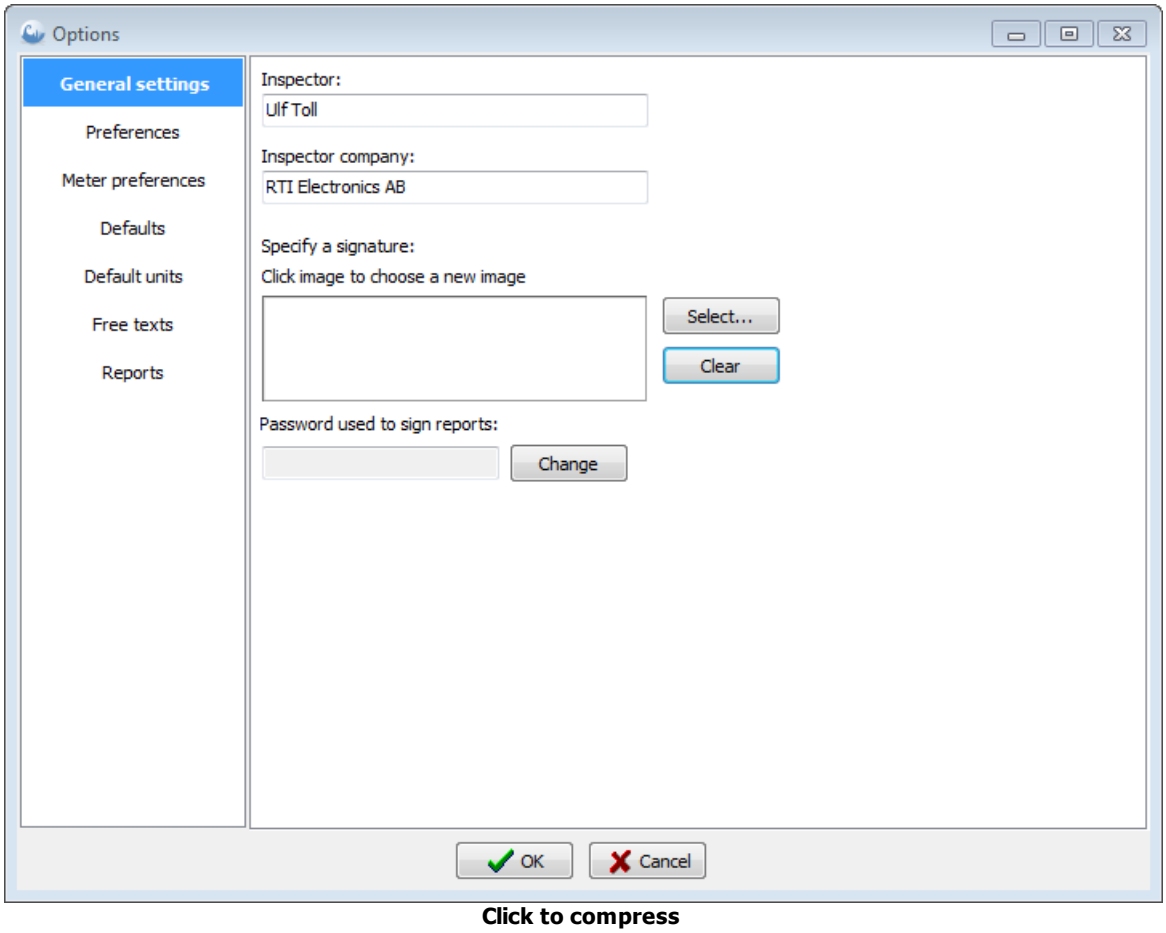
2.8 Program options

The program options menu contains settings that control how Ocean works. This menu is available as a button called "Options" located on the bottom right of the **Application menu**.



Click to compress

Click on the button to open the Program options:



Click to compress

The following four sections are found under the Options button:

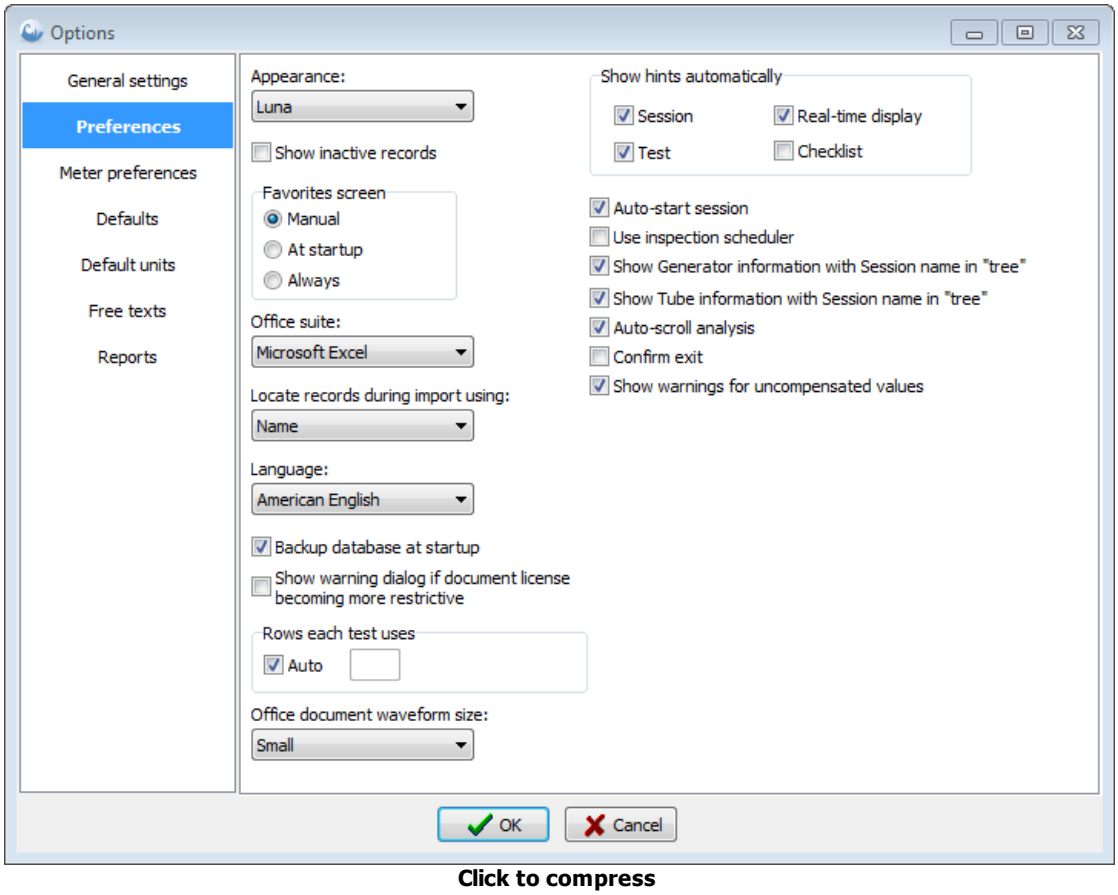
General settings

These are global setting stored in Ocean.

Inspector	This is where you change the inspector name in Ocean. This name will appear as the inspector name when working on a session.
Company	This is where you change the company name the inspector works for.
Specify signature	This is a pciture of your signature that can be added to the summary page of the report when you sign the report.
Password used to sign the report	This password must be specified to be able to sign and close a report.

Preferences - The settings below are user-chosen preferences to customize Ocean.

The settings listed here control how Ocean works.



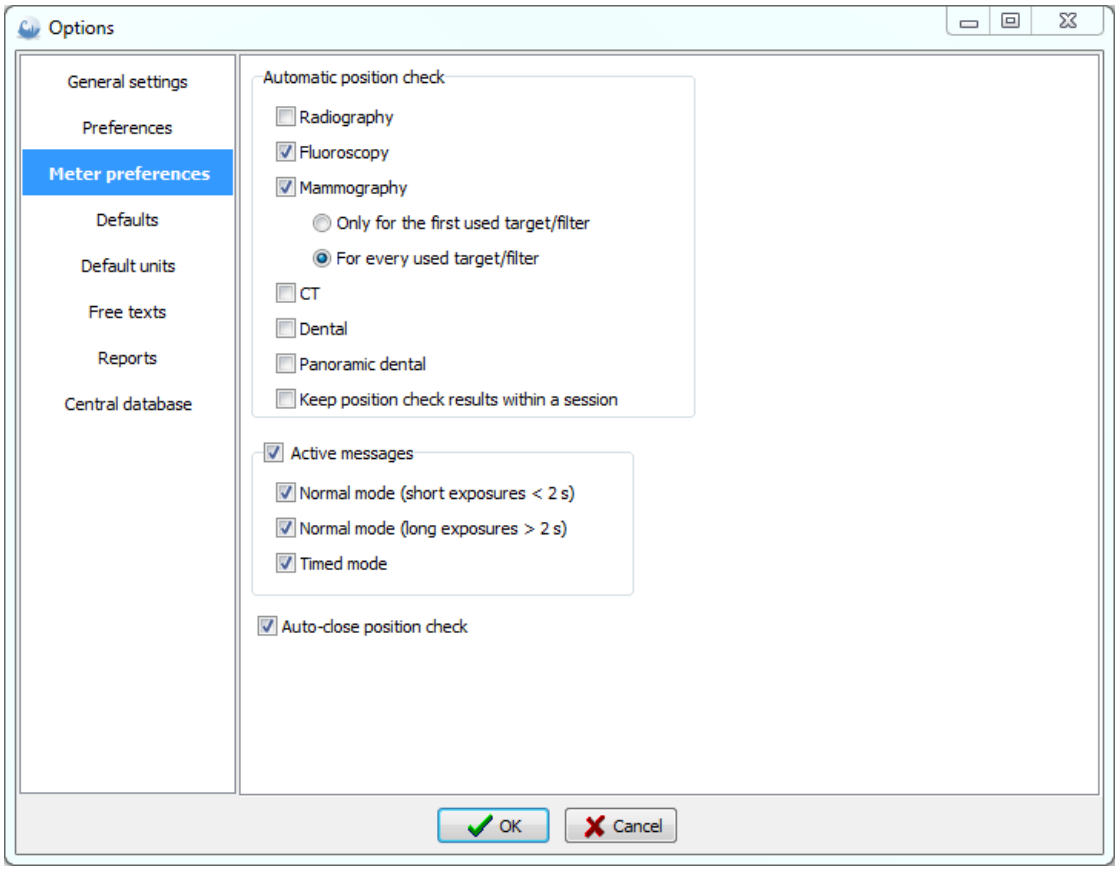
Click to compress

Appearance	Select the color scheme for Ocean (Luna is recommended).
Show inactive records	The default is checked. If unchecked, items set to "inactive" in the database are not shown.
Favorites screen	Defines when the user wants to see the Favorites list. Three choices are available: always, only at start up) or only when the Favorites button is clicked.
Office suite	User selection to use Microsoft Excel or OpenOffice Calc with the Connect and Professional license levels.
Locate records during import using	User selection to locate items by "Name" or by "ID". Default is that items are located by "Name".
Language	Select language (only American English is presently available).
Backup of database at start up	If this box is checked, a back-up of the databse will be performed every time you start Ocean.
Show warning dialog if document license becoming more restrictive	A message is shown when saving a document if the required license level to open it again, is raised.
Rows each test uses	Space allocated for each test when a complete session is dumped to Excel or Calc.
Office document waveform size	Select size for waveform pictures that are exported to Excel or Calc.
Show hints automatically	If this is checked, hints are shown automatically.
Auto start session	If checked, the session starts automatically when it is opened.
Use inspection scheduler	Enable the option to set inspection dates. You will also be reminded to set the next date when you start an inspection.

Show Generator name with session name in the "tree"	Show the generator name with the session name in the room's Measurements folder.
Show Tube information with Session names in the "tree"	Show tube information with the session name in the room's Measurements folder.
Auto-scroll analysis	When a "one row analysis" (AGD, CTDP(helical scan/in phantom), CTDP(helical scan/free-in-air) and QuickHVL) the analysis automatically scrolls to show the analysis.
Confirm exit	Show a dialgue before Ocean closes.
Show warnings for uncompensated values	If checked, a warning is shown if a measured value is not auto compensated. Default value is unchecked.

Meter preferences - The settings below are user-chosen preferences for the meter.

The settings listed here controls the meter.

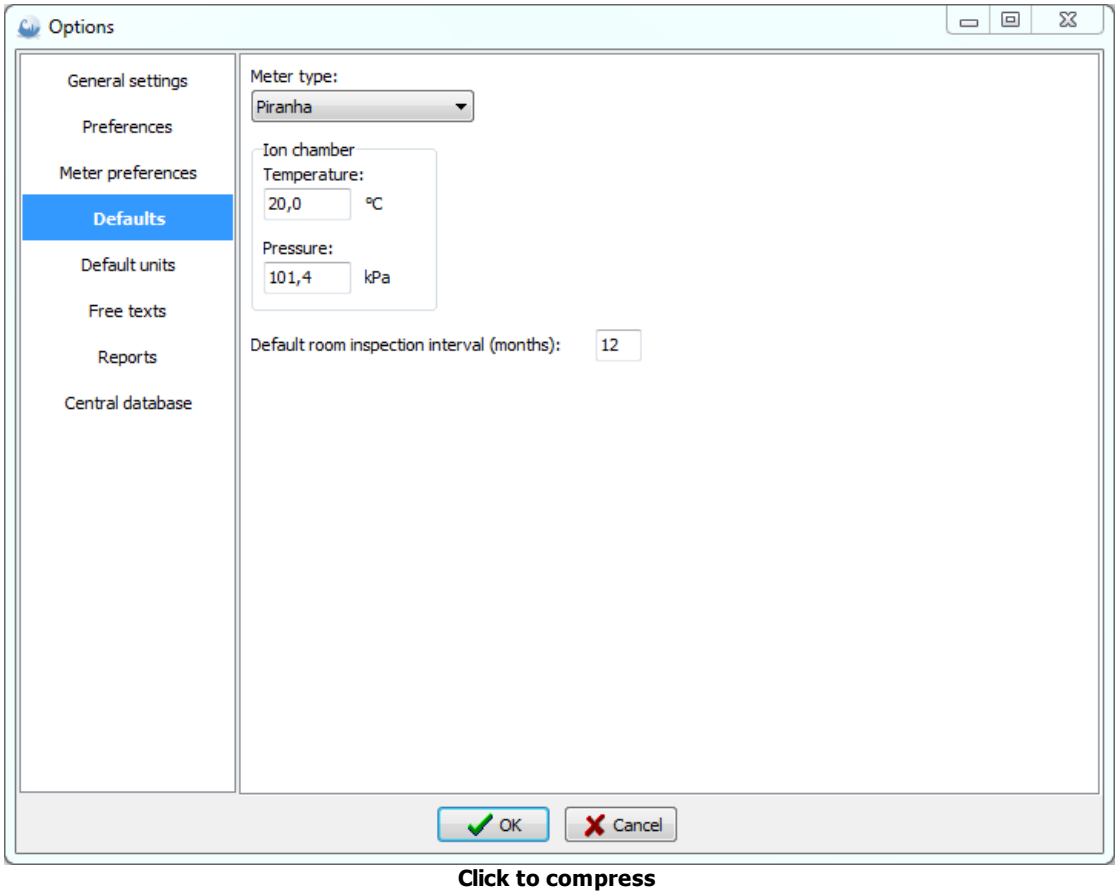


Click to compress

Automatic position check	Defines when user wants to be notified to do a position check.
Active messages	If checked, active messages will be displayed for each measuring mode.
Auto-close position check	If checked, position check closes automatically when it is successful.

Defaults - These settings control functions within Ocean related to measurements and templates

These are the settings that will be the defaults related to measurements.



Click to compress

Meter type This is used when you work off-line during template design. You can select "Piranha" or "Barracuda". You can use a template designed for a Piranha with a Barracuda and vice versa. The only requirement for connecting to a meter is that the meter have an Ocean license.

Temperature Reference temperature used when calculating the TP-factor for ion chambers.

Pressure Reference pressure used when calculating the TP-factor for ion chambers.

Default inspection interval Default inspection interval (months) for room.

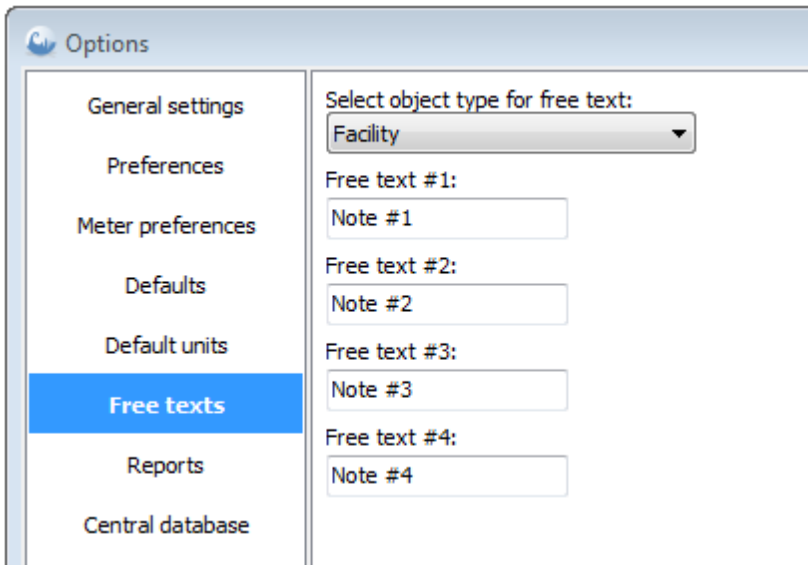
Default units - These settings control functions within Ocean related to measurements and templates

These are the default units, they can be changed "locally" in each template.

Units This is where you can define the default units you want to work with. The choice you make here will affect all new ttemplates you design, but you can change them any time.

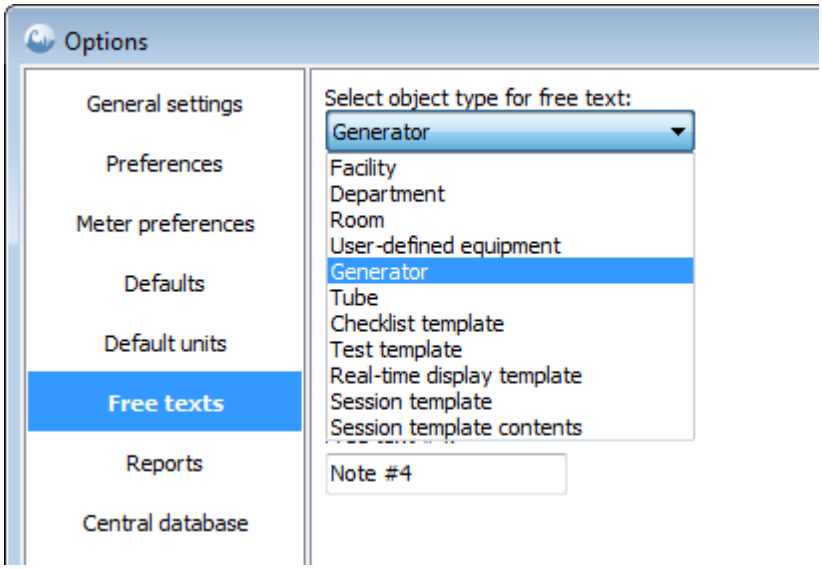
Free texts - Edit user-defined labels

Here is it possible to specify the user-defined labels that are available for facility, department, room, generator, tube, user-defined equipment and all type of templates.



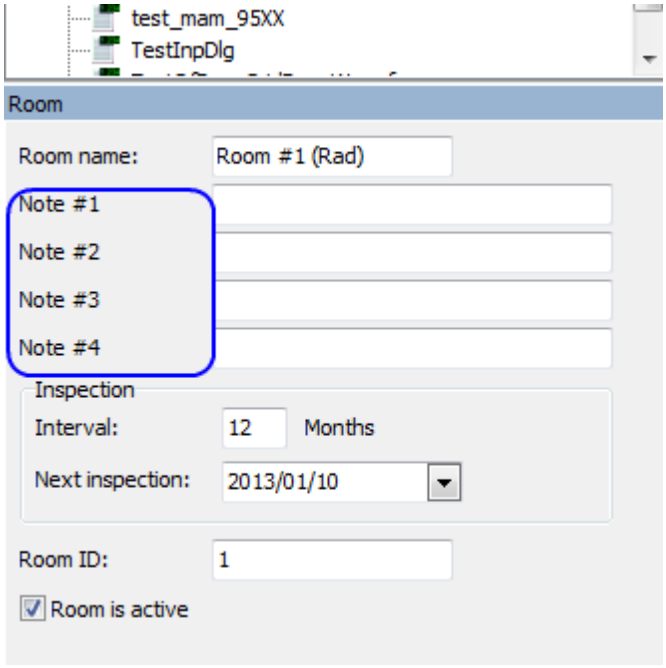
Click to minimize

First select object type and then edit the free texts.



Click to minimize

The free texts are labels for the user-defined fields that are available for all site objects:

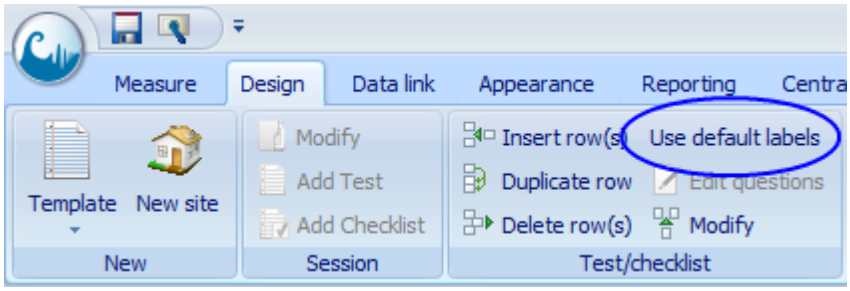


Click to minimize

These fields are also shown in the report and can be used to specify user-defined data.

If you change the labels here it only affects the default labels that are used when you create new templates. If you want to use the new labels in already existing templates do the following:

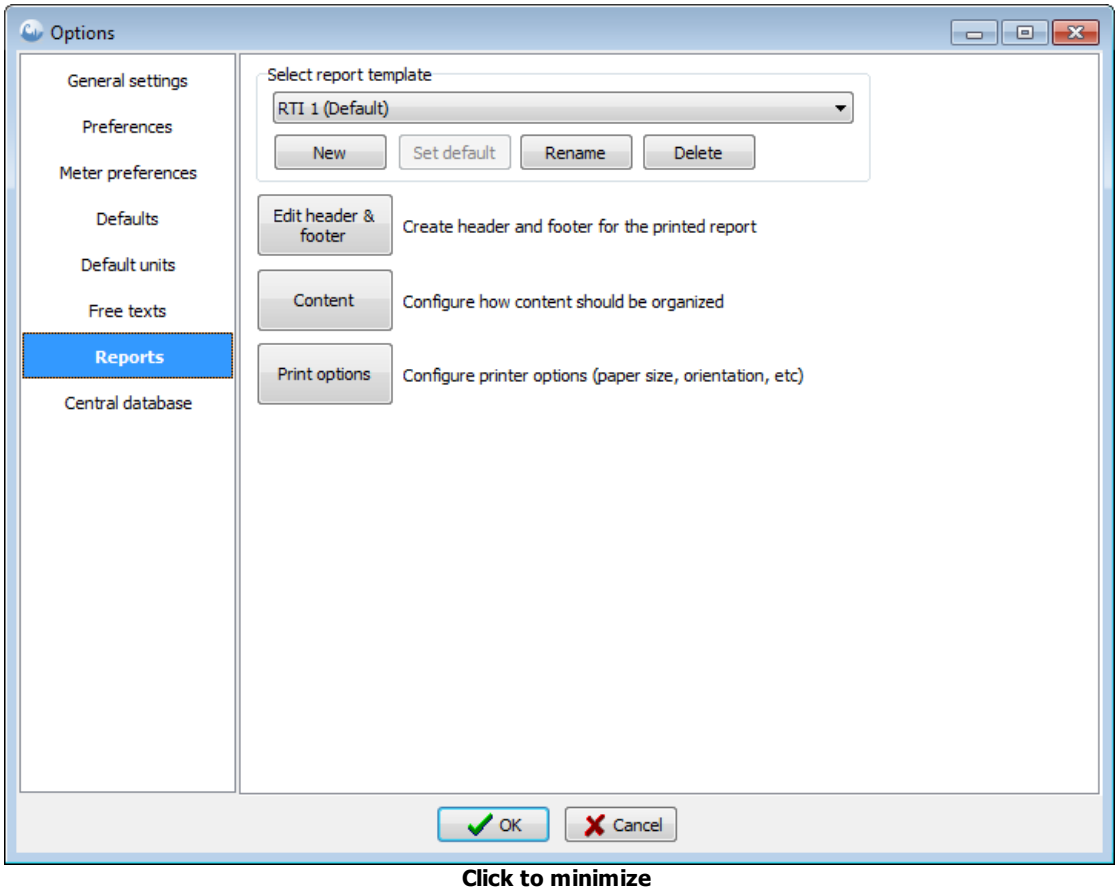
1. Go to the design page.
2. Click on "Use default labels".



Click to minimize

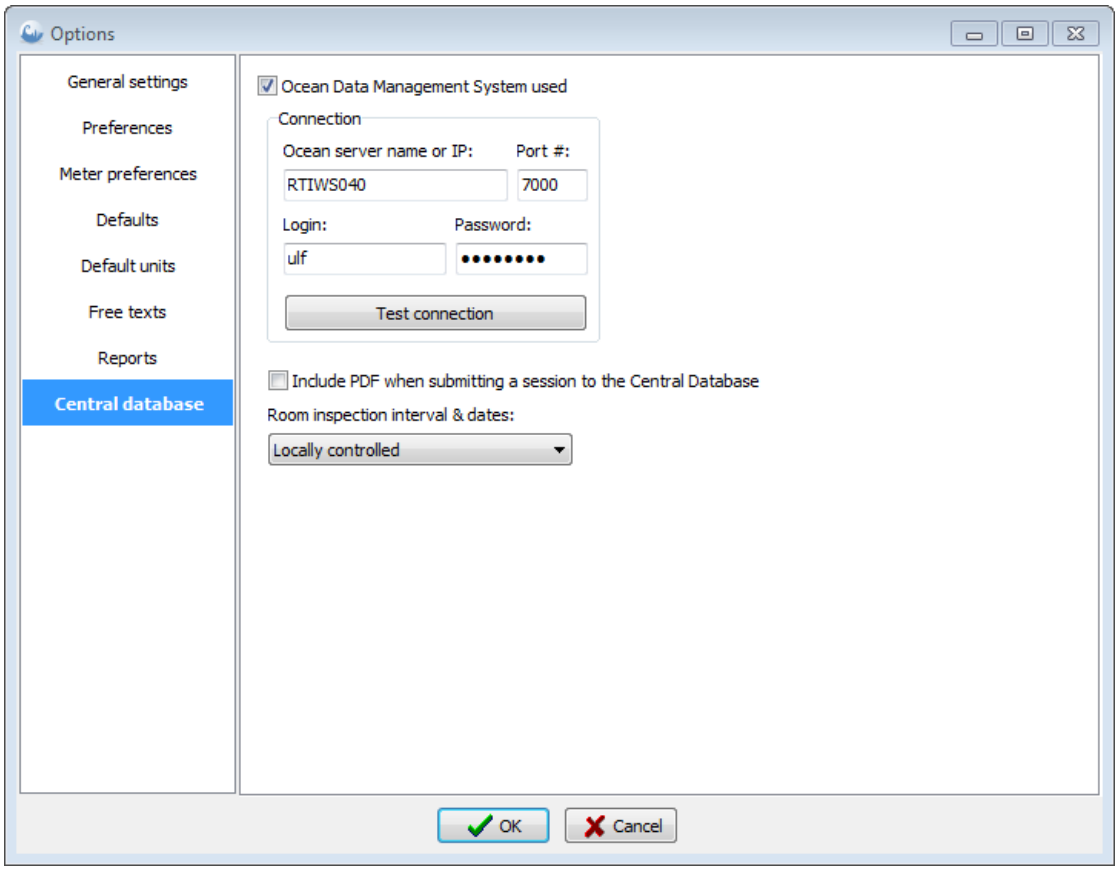
Reports - Define different templates for the report

Here is it possible to define individual header and footer for cover page and test pages, content and print options. It is possible to use standard texts, user-defined texts and pictures (for example a logo). One report template can be set as "default" and will automatically be used when new session templates are created. Different report templates can be created and you can quickly chose between them when you create your report.



Click to minimize

Central database - Settings if you are going to connect to a central database



Click to minimize

You will get instructions from the system administrator for Ocean Central how to set these parameters if this option is used.

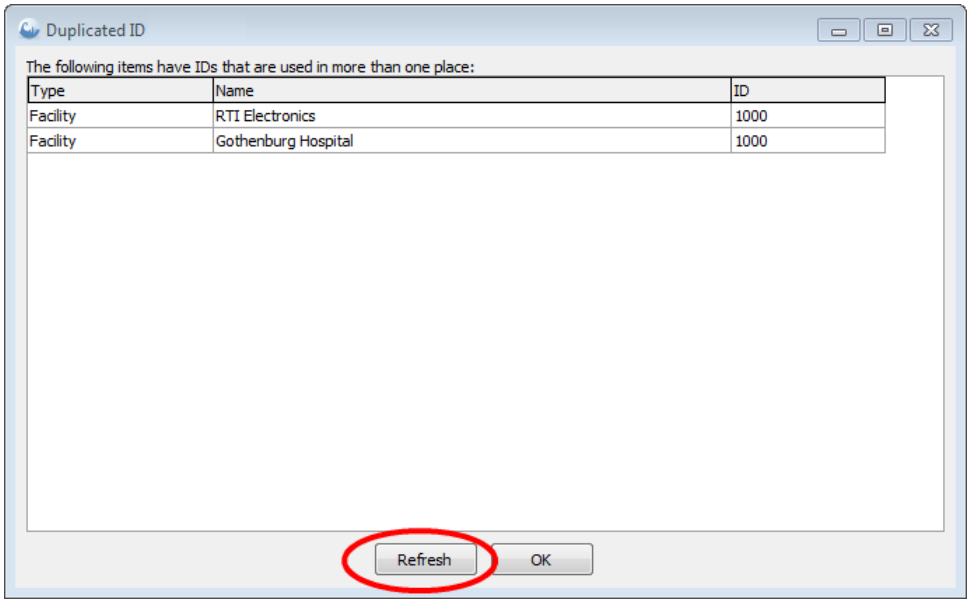
2.9 Locate data during import and export

There are two ways to locate session data when export and import is used between different users. This is applicable both the the standard import/export function when e-mail is used and when Ocean Central is used. Location of data can be done with "Name" or "ID". Measured session are organized based on the site information (facility, department and room). The session also includes information about tested equipment (generator, tube and any user-defined equipment). All these items are recognized either by its name or by an ID it has been given. The default way to locate data is by Name. If you want more data integrity you may use ID instead. In this case must a all items (facilities, departments, rooms and all equipment) that are used have an ID specified. This ID is then used to decided where data goes when it is imported/exported.

If you want to use ID instead of name, go to the Preference page in the Program Options and select ID.

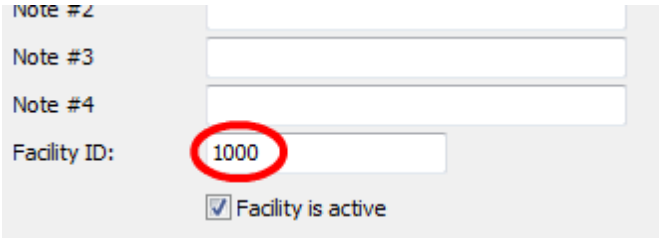
ID can be any text string and it must for each level be unique (all facilities must have a unique ID, all departments within a facility must have unique ID, and so on). If ID is selected the uniqueness is checked every time you click on the button "Check IDs" on the Design page of the ribbon bar.

If there are duplicated IDs the following is shown:



Click to enlarge

All duplicated IDs will be shown. You can double-click on a row and the corresponding ID will be located and you can modify it:

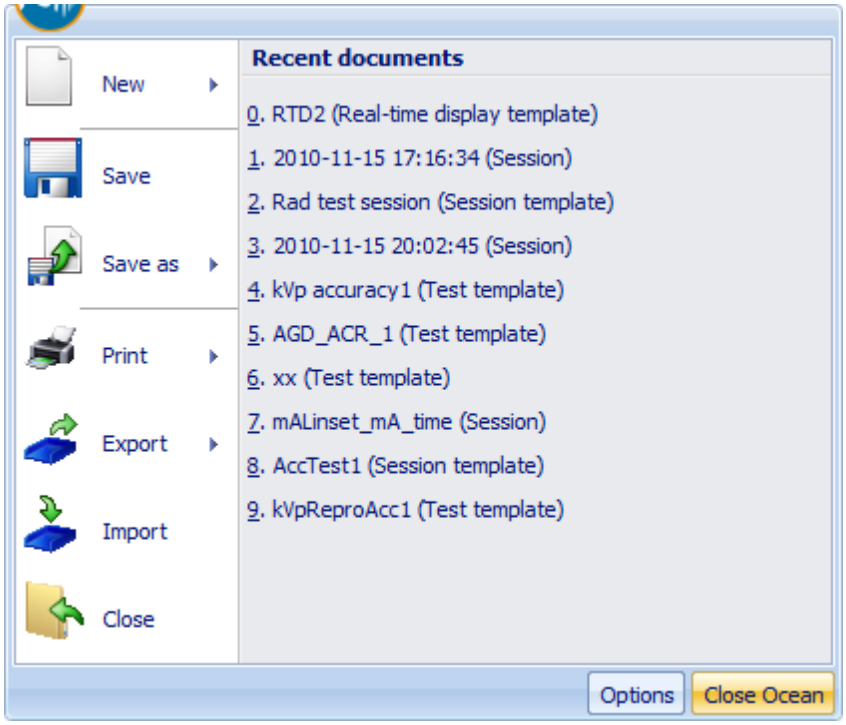


Modify the ID and click on the Refresh button to update the list.

2.10 Exit Ocean

To exit Ocean, simply click on the Application button and then choose the Close Ocean button located on the bottom right of the Application menu.

NOTE: The Close button in the Application menu and on the Ribbon bar will only close the current job you are working on but it will not exit Ocean.



Click to compress

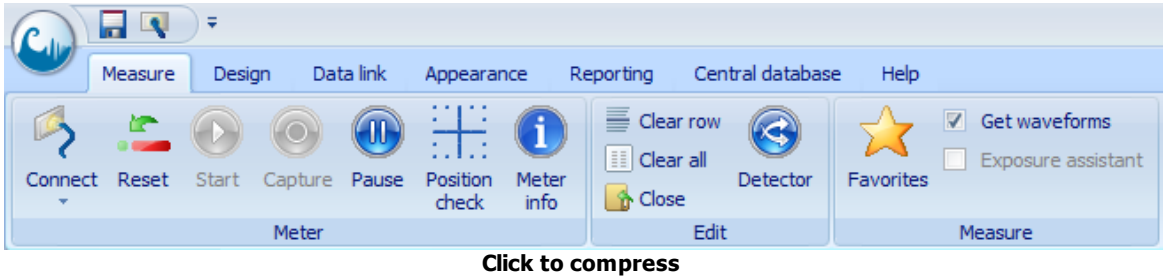
If you have unsaved work while trying to exit Ocean, you will be given the choice to save and then exit.

Chapter 3

Main functions

3 Main functions

In this topic the main functions on the Ribbon are described.



Click to compress

The main functions are:

Measure	Functions you need when you do measurements
Design	Functions you need when you create or modify templates
Data link	Functions you need when you use Ocean with Microsoft Excel or OpenOffice Calc
Appearance	Functions you need when you want to change how things appear on the screen
Reporting	Functions you need for reporting
Central Database	Functions you need when you are connected to a central database
Help	Here you will find help on how to use Ocean topic by topic

Many of the functions are also available via a "right-click" with your mouse. Simply right-click on an object and a menu will be shown with the functions available to you.

3.1 Measure

Most of the functions you will need when you make measurements are located on the Measure tab of the Ribbon bar. There are three groups of functions you will need to know about: Meter functions, Editing functions and Measure functions. See below a more detailed discussion on all three groups of functions.

When you are measuring, the lower status bar shows "Log mode".

This indicates that measures data are saved when you click on the save button.

Meter

These are functions related to controlling your instrument. The settings are also available on the Meter adjust tabs on the right of the Ocean Main screen.

NOTE: If you do not own a Piranha or a Barracuda, just ignore the meter adjust tabs.

Connect - This function establishes communication between your instrument and Ocean

Make sure that the meter is connected to the computer (via USB cable or Bluetooth).

You can toggle between *Keyboard* and *Connected* by clicking on the upper part of the button. With *Keyboard* active you must enter all measured data by hand via the keyboard. When the meter is connected the measured data is transferred automatically from the meter to the Main screen grid.

If you click on the lower part of the button a third option, *Disconnect*, is available. Use this option only in the event you need to:

- Turn your meter off and then back on again.
- If you need to restart meter communication (for example, if you want to switch from one meter to another one). See also Auto start and auto connect.
- If you want to stop meter communication (for example if another program should use the meter while Ocean still is running).

Note!
It is recommended that you turn off power save mode or sleep mode on your computer while you make your measurements with a meter connected. You may experience problems with meter communication if your computer goes to sleep mode or power save mode automatically.

Reset - Manual reset (zero-adjust)

You click on this button when you need to reset the meter. This is normally done automatically but you may have to do it manually in certain situations, for example:

- When you measure at very low signals and use "Free run" measuring mode.
- When you switch detectors after a test is already loaded and the meter is prepared for an exposure (this is relevant only for Barracuda).
- When you suspect that the meter, for some reason, measured an incorrect zero-level.

Start - Start measuring manually

This button is used in **Free run** and **Timed mode** to start the measuring sequence.

Capture - Click this button to capture a value manually

You can use this button during long measuring sequences (for example when testing a fluoroscopy unit) to capture the data at a time of you choosing. For example, you may wish to wait until the data is stable before capturing a value. You must always use this button to capture the measured data when **Free run** mode is used.

The waveform is also captured at the same time as you click on this button (if the checkbox **Get waveform** is checked). Note - free run mode doesn't provide a waveform.

Pause - Pause measurement

This button is used if you don't want the meter to measure even if the detector gets radiation or trigger for some other reason. You can use it for example when you use fluoro and the monitor to position a detector on the image intensifier.

Position check - Verify that your kVp detector is positioned correctly

You can use this to verify that the kVp detector is correctly positioned in the X-ray field. It is always recommended to use this function, but it is especially important in the situations described below:

- Whenever you measure on mammography (after every change of target/filter)
- For all small X-ray fields or when there is a risk that the entire detector may not be irradiated (for example CT and dental)
- If the detector is positioned very close to the focus point

The position check results are not stored with the measured data. If you wish to store this value, you can add a special column to your test and the position check results will be saved with the test in a column of its own.

Position check is always initiated automatically for mammography. This function can be turned of in the Program options.

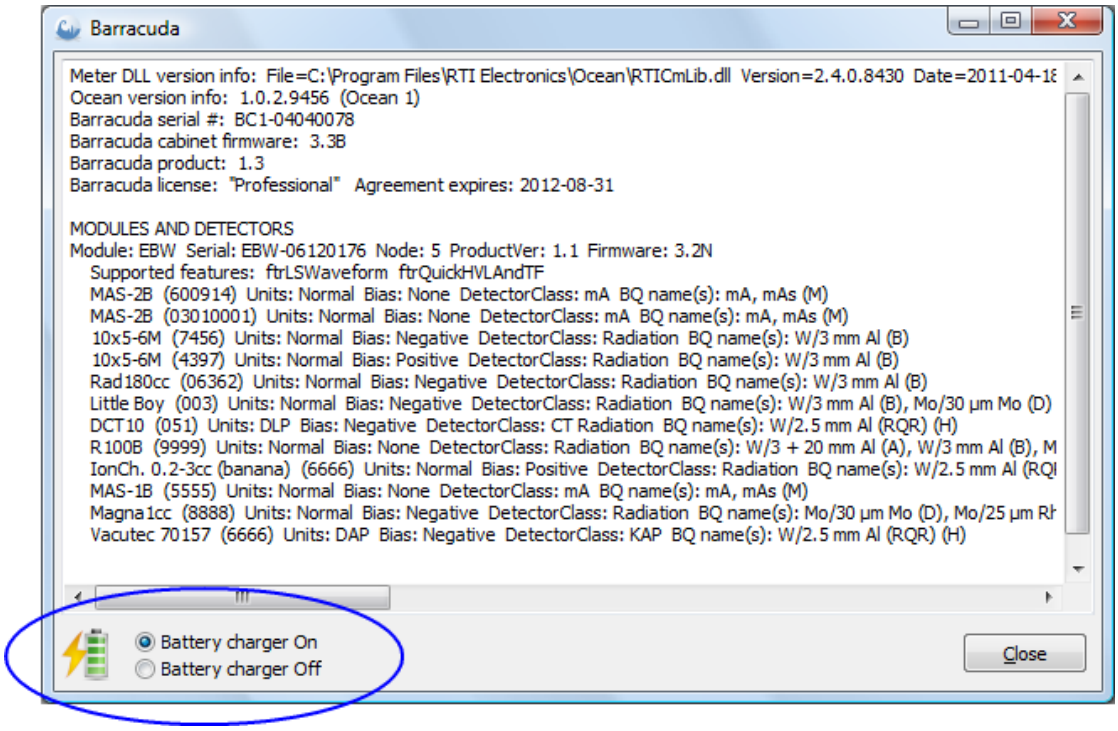
Meter infromation - Get meter information

Click on this button if you want to know more about the connected meter and Ocean. The following information is provided:

- Meter DLL location and version
- Ocean version
- Meter serial number
- Hardware versions
- Model
- Calibrations

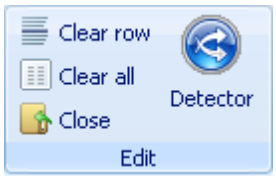
Charging of Barracuda

If you are using Barracuda, charging is turned on and off from this screen:


Barracuda
Meter DLL version info: File=C:\Program Files\RTI Electronics\Ocean\RTICmLib.dll Version=2.4.0.8430 Date=2011-04-18
Ocean version info: 1.0.2.9456 (Ocean 1)
Barracuda serial #: BC1-04040078
Barracuda cabinet firmware: 3.3B
Barracuda product: 1.3
Barracuda license: "Professional" Agreement expires: 2012-08-31
MODULES AND DETECTORS
Module: EBW Serial: EBW-06120176 Node: 5 ProductVer: 1.1 Firmware: 3.2N
Supported features: ftrLSWaveform ftrQuickHVLAndTF
MAS-2B (600914) Units: Normal Bias: None DetectorClass: mA BQ name(s): mA, mAs (M)
MAS-2B (03010001) Units: Normal Bias: None DetectorClass: mA BQ name(s): mA, mAs (M)
10x5-6M (7456) Units: Normal Bias: Negative DetectorClass: Radiation BQ name(s): W/3 mm Al (B)
10x5-6M (4397) Units: Normal Bias: Positive DetectorClass: Radiation BQ name(s): W/3 mm Al (B)
Rad180cc (06362) Units: Normal Bias: Negative DetectorClass: Radiation BQ name(s): W/3 mm Al (B)
Little Boy (003) Units: Normal Bias: Negative DetectorClass: Radiation BQ name(s): W/3 mm Al (B), Mo/30 µm Mo (D)
DCT10 (051) Units: DLP Bias: Negative DetectorClass: CT Radiation BQ name(s): W/2.5 mm Al (RQR) (H)
R100B (9999) Units: Normal Bias: None DetectorClass: Radiation BQ name(s): W/3 + 20 mm Al (A), W/3 mm Al (B), M
IonCh. 0.2-3cc (banana) (6666) Units: Normal Bias: Positive DetectorClass: Radiation BQ name(s): W/2.5 mm Al (RQI
MAS-1B (5555) Units: Normal Bias: None DetectorClass: mA BQ name(s): mA, mAs (M)
Magna1cc (8888) Units: Normal Bias: Negative DetectorClass: Radiation BQ name(s): Mo/30 µm Mo (D), Mo/25 µm Rh
Vacutec 70157 (6666) Units: DAP Bias: Negative DetectorClass: KAP BQ name(s): W/2.5 mm Al (RQR) (H)
Battery charger On
Battery charger Off
Close

Click to compress

Edit



These functions are used for editing the measured data.

Clear row - Clear current row (removes all measured data from current row)

Click on this button if you want to clear the current row. The set values will not be removed with this command.

Clear all - erase all data in the object you are working with (removes all measured data from the entire grid)

Click on this button if you want to clear all the rows. The set values will not be removed with this command.

Close - Close your current work (this command will not close Ocean)

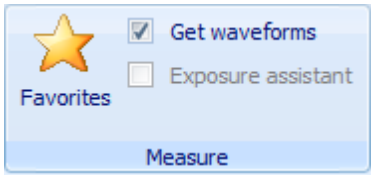
Click on this button if you want close the current job you are working on. You will be prompted to save any unsaved data before closing.

This is the same as **Close** on the **Application menu**.

Detector - Change the detector

Use this button if you want to choose another detector for your current measurement. Read more in the topic Detector selection.

Measure



From here you can open the Favorites list and find some functions that control how measured data are acquired.

Favorites - Shows the favorites list

Click on this button to show the Favorites list.

Get waveform - Enable waveform acquisition for every exposure

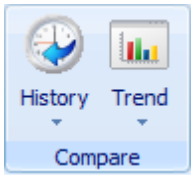
The default for this function is CHECKED. This means that a waveform will be acquired for every exposure. Uncheck this box if you don't want waveforms to be acquired for each exposure.

If you prefer to acquire waveforms sometimes but not all the time, you can specify in the test template whether or not you want to acquire the waveform. For example, if your test template contains four measurements, and you only want to acquire two waveforms, you can choose which two of the four measurements will acquire the waveform and which two will not. If you use this

option it will override the **Get waveform** checkbox.

Exposure assistant - Not available in this version

Compare



From here you can do trend analysis and easily look up previous measurements done earlier in the same room.

History - Shows previous similar tests from the same room

Click on this button to view the history of similar measurements in current room.

Trend - Trend analysis

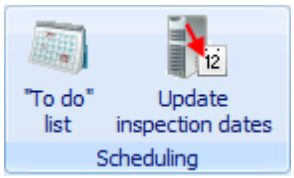
Click on this button to start trend analysis. You can compare how different parameters change over time.

Bias

Bias off - Turns off the bias (only Barracuda)

Click on this button to turn off the bias when using Barracuda. If you use Piranha the bias is turned on when you power on the Chamber Adapter.

Scheduling



To do list - Shows your To do list

Click on this button to show the To do list.

Update inspection dates - Update inspection dates from the Central Database (only if Ocean Central is used)

This button is only used if Ocean Central is used. Read more here.

3.2 Design

Most of the functions you will need when you make templates are located on the Design tab of the Ribbon bar. There are six groups of functions you will need to know about: New, Session, Test/ checklist, Real-time display, Miscellaneous and Analysis. See below a more detailed discussion on all of these groups of functions.

New

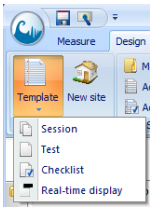
These two functions you use when you want to create something new (a template or a site).

Template - Design a new template

A template is an object without any measured data. It is like a pre-defined test protocol without any actual measurements in it. A template has all the necessary information to perform a certain task (either a measurement, a group of measurements or a checklist). The template contains any or all of the following:

- set values
- meter settings
- analysis (with it's own pre-defined pass/fail criteria)
- pre-defined pass/fail answers to quality assurance compliance questions (checklists)

Using a template to perform a certain task, therefore, is a fast and efficient way of doing quality assurance compliance testing for X-ray systems. You can create four different types of templates that will be stored in the database for future use. They can be used individually (session and real-time display) to quickly repeat standard measurements. Test and checklist templates are used as "building blocks" for creating session templates containing a complete set of measurements and checklists to complete specific quality assurance compliance testing required by regulatory agencies responsible for X-ray system quality control. Once these templates are created, you can share them with your colleagues and regulatory agencies if you like.



When you click on the **Template button** you can select the type of template you want to create. The four template choices are listed below:

- New Session template
- New Test template
- New Checklist template
- New Real-time display template

New Session template

When you click on the Session template choice, it starts a wizard to help you create your new session template. A session template is a collection of tests and/or checklists that together define a complete job. When you make measurements with a session template, a report can be generated upon completion of all the measurements. The wizard lets you:

- Select test and checklist templates from the Library
- Specify a title and other information for the session template
- Specify options that control the report generation process

When the wizard is done the session template is created and opened. It is possible to add and remove tests and checklists "on the fly" after the session template has already been created and saved.

Click on Save to save the session template. You can find your new session template under the Library tab to the Left of the Main screen grid under Session templates. Read more about session templates in the topic Design a session template.

New Test template

When you click on the Test template choice, it starts a wizard to help you create your new test template. A test template is a table with a number of exposures. The measuring conditions, meter settings and required calculations are specified for each exposure. You can assign different types of analysis calculations to one or several of the exposures in the template. When you use the template, you will be able to see the analysis results on the right side of the screen below the grid. The analysis calculations will be made on the row or several rows you specify and will be saved with the measured data. The wizard will take you through a number of steps to create the basics of a test template.

When you start the Test template wizard it will help you do the following:

- Specify a name and other information for your new test template
- Select a modality
- Select the number of columns, detectors and calibrations you wish to use
- Select other general settings for your new template

Just follow the wizard's guidance and making a template will be easy. When the wizard is done the test template is created and opened. To complete your new test template you also have to do the following:

- Specify set values (generator, conditions and so on)
- Adjust the meter settings for each row if necessary
- Add one ore more analysis with pass and fail criteria
- Modify appearance: you can change the order of columns, modify the number of decimal places for the numeric values, choose the measurement units to be used and you can change the size and location of the different windows on your screen

Click on Save to save the test template. You can find your new test template under the Library tab to the Left of the Main screen grid under Test templates.

You can go ahead and use your new template now if you have your instrument connected to Ocean and your instrument has the capability to make the measurements required by your template. This way you can try your new template and adjust the settings if necessary to make sure the template is exactly what you wanted.

NOTE: A test template cannot be stored with measured data. Read more about this in the topic Design a test template.

New Checklist template

When you click on the Checklist template choice, it starts a wizard to help you create a new checklist. A checklist is a number of questions and/or tasks that need to be performed and confirmed. For each row you can specify the following:

- A question or task text
- The type of answer (choose from yes/no, text, value or user-defined options)
- Additional information (extensive text and picture information related to the question or task you are working on)
- Add pass/fail criteria
- Recommendation in case of failure

- Name for the checklist and other additional information

Click on Save to save the checklist template. You can find your new checklist template under the Library tab to the Left of the Main screen grid under Checklist templates.

NOTE: A checklist template has no answers in it and it cannot be saved with results. Read more about this in the topic Design a checklist template.

New Real-time display template

When you click on the Real-time meter template choice, it starts a wizard to help you create your new real-time display. A real-time display is a template with a number of displays and a grid where measurements are logged. The wizard will take you through the following steps to create the real-time display template:

- Select a modality the template will be used with
- Select the number of columns, detectors and calibrations you wish to have
- Select other general settings

Just follow the wizard's guidance and making a real-time display will be easy. When the wizard is done the real-time display template is created and opened. To complete your new real-time display you also have to do the following:

- Specify set values (generator, conditions and so on)
- Adjust the meter settings for each row as necessary
- Modify appearance: you can change the order of columns, modify the number of decimal places for the numeric values, choose the measurement units to be used and you can change the size and location of the different windows on your screen

Click on Save to save the real-time display template. You can find your new real-time display under the Library tab to the Left of the Main screen grid under Real-time display templates.

You can go ahead and use your new template now if you have your instrument connected to Ocean and your instrument has the capability to make the measurements required by your template. This way you can try your new template and adjust the settings if necessary to make sure the template is exactly what you wanted.

You may also choose to save your real-time display with the measured data. In this instance, the real-time display with the measurements will be saved under the Measurements tab to the left of the Main screen grid. Read more on this in the topic Design a real-time display template.

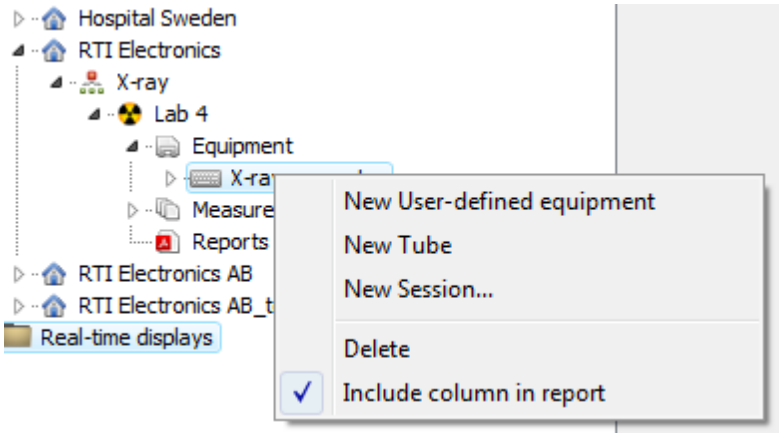
-End-

Site - Create a new site (facility/department/room/generator/tube)

When you click on the Site button, it starts a wizard that will help you create a new site. A site is a description of a location and equipment to be tested. The wizard will take you through a number of steps to do the following:

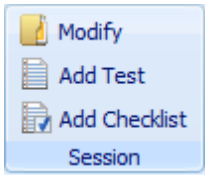
- Create a facility, department and room
- Create a generator and tube

When the wizard is done, a new site is created. To find your new site, look under the Measurements tab to the left of the Main screen grid. The equipment belonging to the new site you just created is found under the Equipment tab to the right of the Main screen grid. You can add more equipment to a room and more rooms to a site at any time by right-clicking on the room name or site name in the tree to which you wish to add new items (see picture below).



Read more in the topic New site.

Session



These are the functions to use when you wish to edit a Session template.

Modify - Modify current session

If you click the Modify button the session template building wizard starts. This wizard will let you modify the following:

- Session template information
- Add/remove test and checklist template
- Change settings for the report

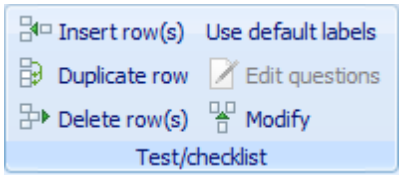
Add Test - Add a new test to current session template

If you click on this button you can add an existing test template to the session template you are working with or build a completely new one and add it "on-the-fly". Read more in the topic Add/ Delete a test to a session.

Add Checklist - Add a new checklist to current session template

When you click this button you can add an existing checklist template to the session template you are working with or build a completely new checklist and add it "on-the-fly". Read more in the topic Add/Delete checklist to a session.

Test/Checklist



These functions are used to edit an existing test or checklist template.

Insert row(s) - Add more rows to current test or checklist

With this function you can do the following:

- Number of rows to insert
- Insert first, last or before/after active row

Inserted rows will not be assigned to any analysis.

Duplicate row - Duplicates selected row

Selected row is duplicated, the new row(s) will be a copy of the selected row, including any analysis.

Delete row(s) - Delete selected rows

Delete the selected row(s). By default, this function deletes the current active row. You do have the option to select a range of rows for deletion by using multi-selection.

Use default labels - Force user-defined labels into the template

When you click this button is active template updated with default labels as they are specified in Program Options.

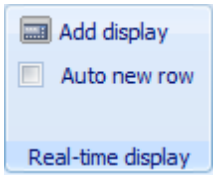
Edit questions - Edit questions in a checklist

Click this button if you want to edit a question is a checklist.

Modify - Modify current test or checklist

When you click this button, the checklist design mode is enabled. You can go back to working mode again by clicking the Modify button again or by clicking the Close button.

Real-time display



These functions are used when you want to edit a real-time display template.

Add display - Modify current real-time display

Use this button if you want to add or delete displays in your real-time display template.

Auto new row - Select if you want to add new rows automatically

If you have Display license level, this checkbox is always checked.

If you have Connect or Professional license level, you have the ability to create real-time display templates with a specific number of rows pre-defined. When you use a real-time display template, just make your measurements and when you wish to stop, uncheck this box and no further rows will be created.

Micelleneous

These functions are used when editing a Session or Test template.

Detector - Select or change the detectors to be used

When you click the Detector button, the detector selection dialogue will be shown and you may select any detector you have in the list to be used with your template. Read more about this in the topic Detector selection.

Protection - Add protection to templates

A session or real-time template template can be protected from modification. Read more on this in topic Protection.

Check ID-s - Check for duplicated IDs

A session or real-time template template can be protected from modification. Read more on this in topic Locate data during import and export.

Analysis

This function is to add or change analyses in the current test template.

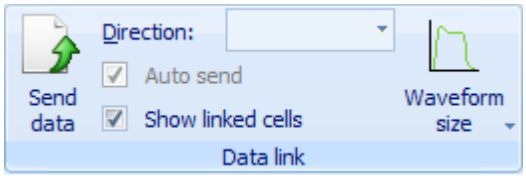
Setup - Add/modify analysis in the current test template

Use this button if you wish to add an analysis to your test template, or if you want to change the current analysis to something else. Read more about this in the topic Analysis (Definitions).

3.3 Data link

The functions you need when you want to send data to Microsoft Excel or OpenOffice Calc are located on the Data link tab of the Ribbon bar. You can select Excel or Calc in the Program options. Functions are divided into two different groups:

Data link



These functions are related to exporting data to a spreadsheet.

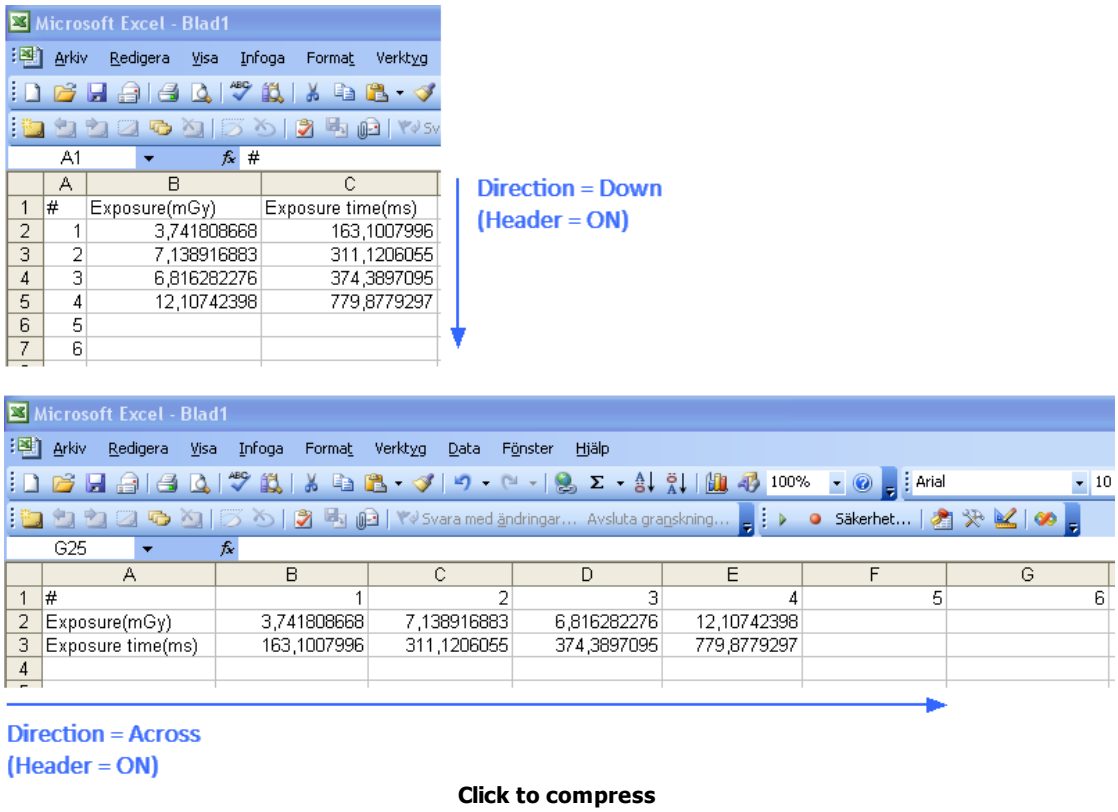
Send data - Send data manually to a spreadsheet

You can manually send data to a spreadsheet by using this button. The data will be sent to the

spreadsheet according to the currently selected data export mode. You can also read data from the spreadsheet into Ocean if you use linked cells. This makes it possible to import data from other meters into Ocean.

Direction - Manually select direction to fill the spreadsheet (horizontal/vertical)

Data can be sent using the Down or Across direction. This is used only when you are not using direct linking between cells in Ocean and in Microsoft Excel (or OpenOffice Calc).


Microsoft Excel - Blad1
Arkiv Redigera Visa Infoga Format Verktyg
A1 #
Exposure(mGy) Exposure time(ms)
1 3,741808668 163,1007996
2 7,138916883 311,1206055
3 6,816282276 374,3897095
4 12,10742398 779,8779297
Direction = Down
(Header = ON)
Microsoft Excel - Blad1
Arkiv Redigera Visa Infoga Format Verktyg Data Fönster Hjälp
G25
1 2 3 4 5 6
Exposure(mGy) 3,741808668 7,138916883 6,816282276 12,10742398
Exposure time(ms) 163,1007996 311,1206055 374,3897095 779,8779297
Direction = Across
(Header = ON)

Click to compress

Auto send - Enable auto send

With auto send on, data is transferred automatically from your meter to the spreadsheet after each exposure. Auto send can be used with all link modes, but it's optional since the data can always be sent by using the "Data send" button.

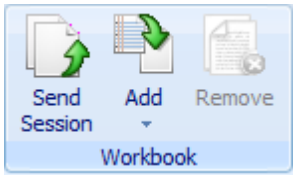
Show linked cells - Enable indication for linked cells

This is only used for cell-to-cell mode to indicate which Ocean cells that are linked to a spreadsheet.

Waveform size - Size of exported waveform graphs

You can select the size for the waveform graphs that are exported to the spreadsheet. Three different sizes are available.

Workbook



These functions are to help you quickly connect or disconnect a workbook to a session or to a real-time display.

Send Session - Send a complete session to a workbook

You can send a complete session to a workbook.

Read more on this in topic Send Session.

Add - "Link" a workbook to current session or real-time display

This button is used to "link" a workbook to a session or a real-time display. There are three ways to "link" workbooks:

Embed workbook: When you use this type of "link", a copy of the "linked" workbook is stored (embedded) inside the session or real-time display.

NOTE: In this case, Ocean works with the embedded copy of the workbook and the original file is not needed when you use the session template or real-time display template to which the workbook was "linked". Using this function gives users the benefit of never losing the workbook by accident.

Read more on this in topic Associate or embed a workbook.

Associate workbook: When you use this type of "link", it will be established to a user-specified workbook.

NOTE: Once you "linked" a workbook to a session template or a real-time display using the Associate function, that workbook must be available on your computer (or other media such as a CD or flash drive) so Ocean can find it and create the link whenever you use the session template or real-time display to which the workbook was linked. It is, therefore, recommended that you either store your "linked" workbooks in a clearly identified folder on the computer you usually use Ocean with or on other media (such as a CD or flash drive) that is clearly marked and readily accessible when you use Ocean.

Read more on this in topic Associate or embed a workbook.

Free workbook: Use this type "link" when you just want to create a temporary link.

NOTE: In this case the link is not saved when you save the real-time display or the session.

Read more on this in topic Free workbook.

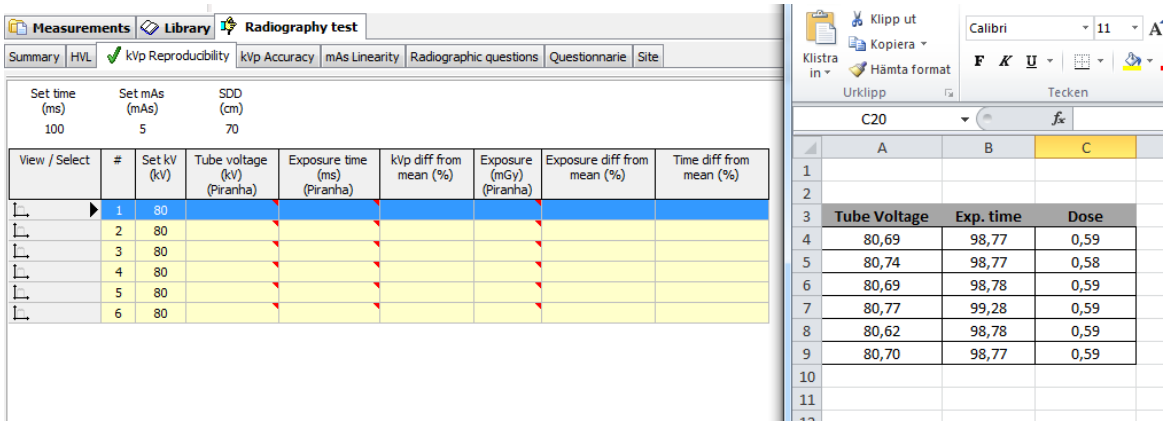
Remove - Delete the link to the workbook

Use this function to delete a link to an associated workbook or remove an embedded workbook.

Read more on this in topic Associate or embed a workbook.

3.3.1 Send data from Excel to Ocean

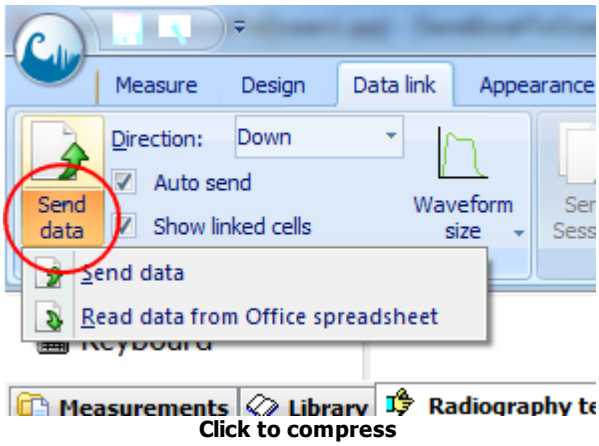
It is also possible to read data from Excel into Ocean if you have linked cells. The picture below shows an example:



Click to compress

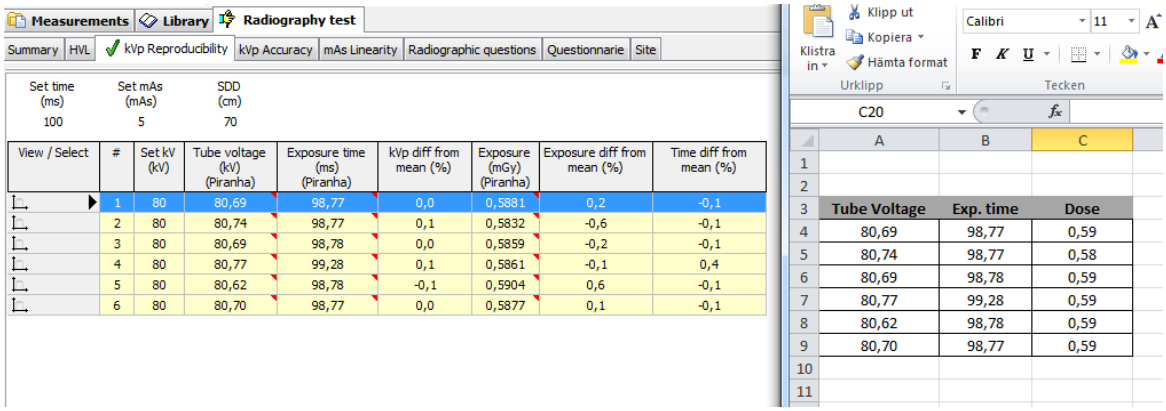
Measured data are available in Excel and we want to move them into Ocean. The different cells are linked as described in previous section.

1. Click on the lower part of the Send Data button:



Click to compress

2. Select "Read data from Office spreadsheet". Data are now copied from Excel into Ocean.

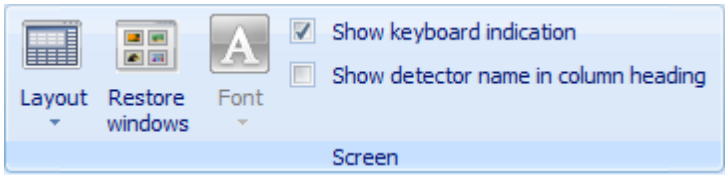

Measurements
Library
Radiography test
Summary
HVL
kVp Reproducibility
kVp Accuracy
mAs Linearity
Radiographic questions
Questionnarie
Site
Set time (ms) 100
Set mAs (mAs) 5
SDD (cm) 70
View / Select | # | Set kV (kV) | Tube voltage (kV) (Piranha) | Exposure time (ms) (Piranha) | kVp diff from mean (%) | Exposure (mGy) (Piranha) | Exposure diff from mean (%) | Time diff from mean (%)
1 | 80 | 80,69 | 98,77 | 0,0 | 0,5881 | 0,2 | -0,1
2 | 80 | 80,74 | 98,77 | 0,1 | 0,5832 | -0,6 | -0,1
3 | 80 | 80,69 | 98,78 | 0,0 | 0,5859 | -0,2 | -0,1
4 | 80 | 80,77 | 99,28 | 0,1 | 0,5861 | -0,1 | 0,4
5 | 80 | 80,62 | 98,78 | -0,1 | 0,5904 | 0,6 | -0,1
6 | 80 | 80,70 | 98,77 | 0,0 | 0,5877 | 0,1 | -0,1
Klipp ut
Kopiera
Hämta format
Klistra in
Urklipp
Calibri
11
Tecken
C20
Tube Voltage | Exp. time | Dose
80,69 | 98,77 | 0,59
80,74 | 98,77 | 0,58
80,69 | 98,78 | 0,59
80,77 | 99,28 | 0,59
80,62 | 98,78 | 0,59
80,70 | 98,77 | 0,59

Click to compress

3.4 Appearance

The controls customize the Main screen layout (your workspace) are found on the Appearance tab of the Ribbon bar. There are screen layout functions, display layout functions and waveform appearance functions available on this tab. Each group of functions is discussed separately below.

Screen



These functions are related to the Main screen layout and appearance.

Layout - Change the layout for the workspace

This button is used to toggle between the three different pre-defined layout choices Ocean offers. You can also arrange the screen layout manually if none of the three layout choices are to your liking. Read more screen layout in topic Screen layout.

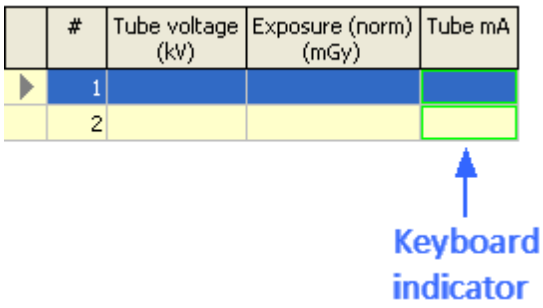
Restore windows - Restore windows

This button is used to restore the default screen layout Screen layout.

Font - Select main font size

Font size selection is not available in this version of Ocean.

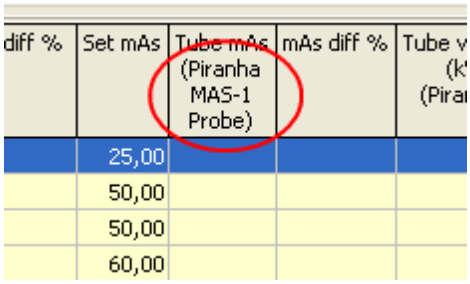
Show keyboard indicator - Indicates that a column needs manual keyboard input



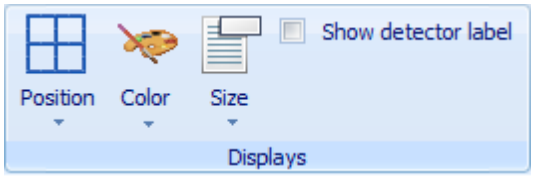
When you use Ocean without a Piranha or Barracuda, or if you don't have a certain detector for the job, you have the option to use this function to mark columns that will need to have values entered into them manually. The special columns requiring input from you via the keyboard are marked with a green outline as you see on the above picture.

Show detector name in column heading - Show the detector name in the column heading

This checkbox is used to show or hide the detector name in the column heading:



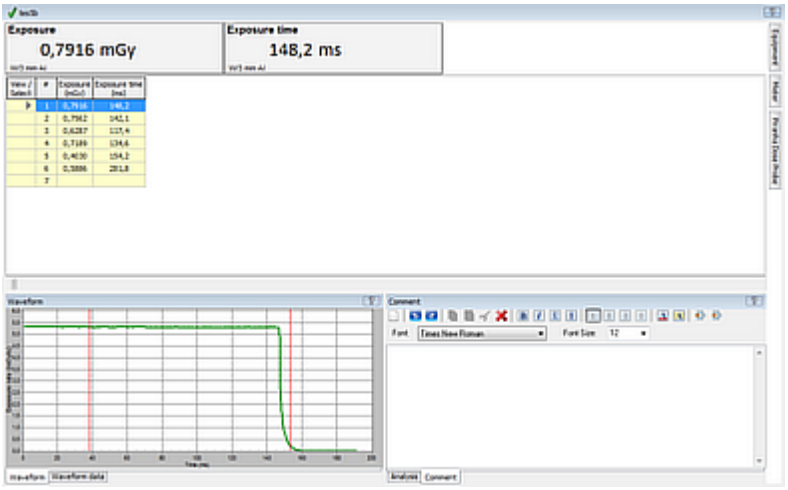
Displays



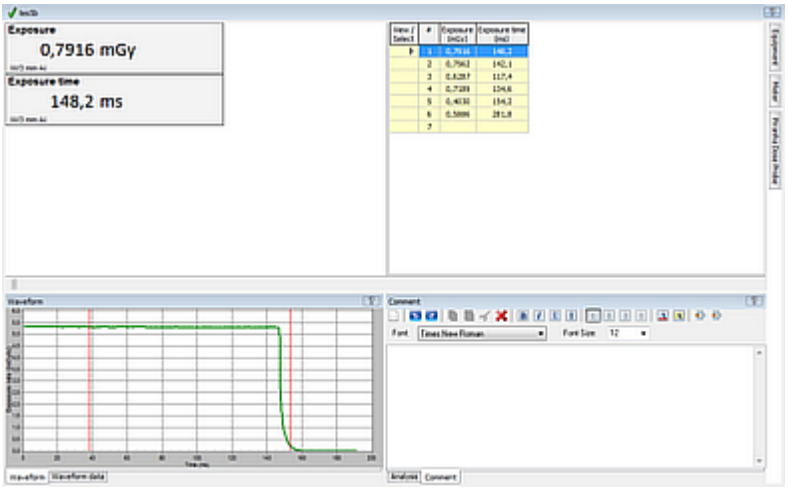
These are the functions you will use to connect or disconnect a workbook to a session or to a real-time display.

Position - Select position for the displays

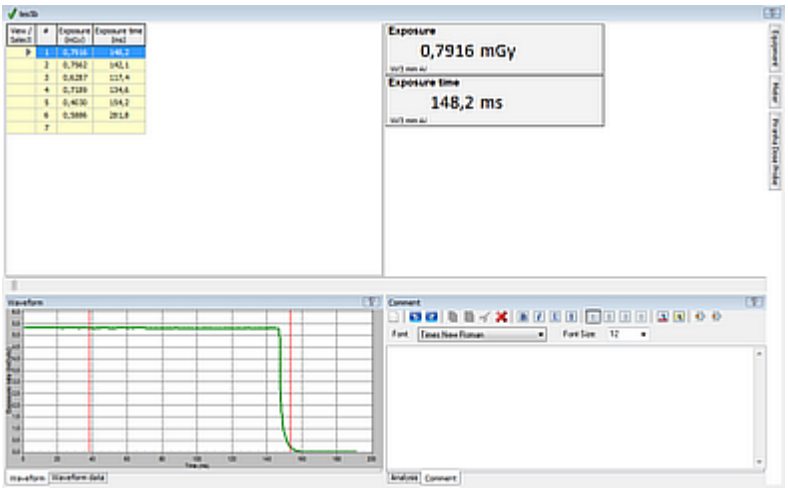
Ocean provides three options, Left, Right or Center for display positioning.



Top



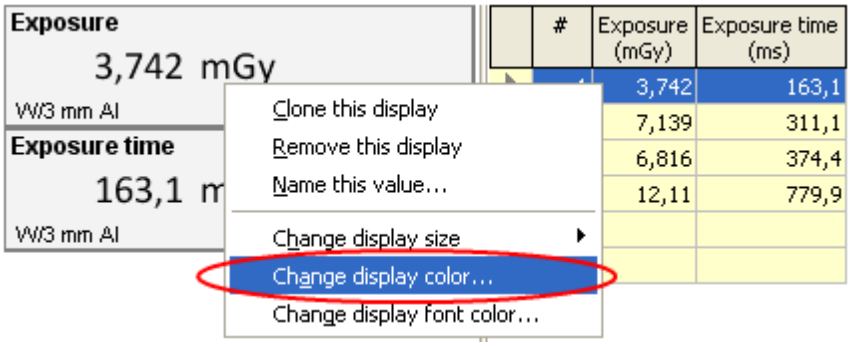
Left



Right

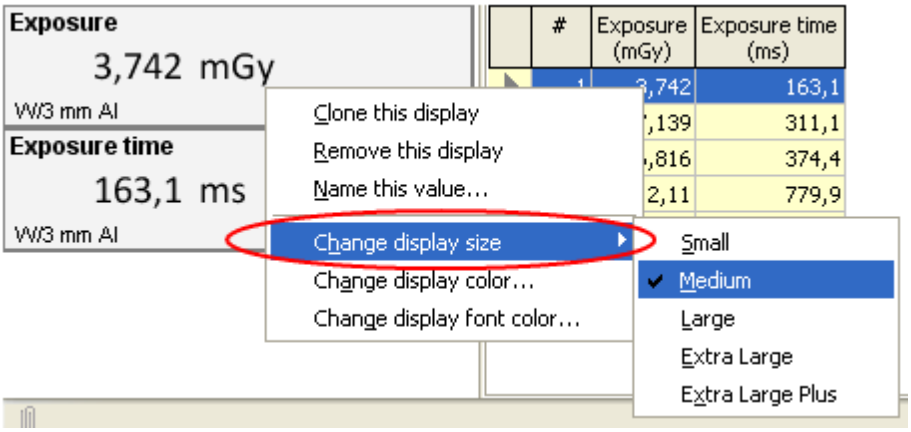
Color - Select color for the displays

You can change background and font color of the displays by clicking on this button. Any changes you make here will affect all of displays. However, if you want each of your displays to have a different font color, you can do that by right-clicking on each display and choose the change color option.

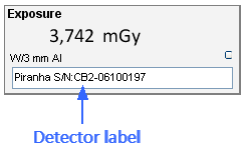


Size - Select size for the displays

You can change the font size of the displays by clicking on this button. Any changes you make here will affect all of displays. However, if you want each of your displays to have a font size, you can do that by right-clicking on each display and choose the change display font size option.

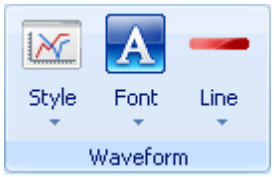


Show detector label - Show detector name/serial number



When you are using several detectors at the same time, it would be very useful in some cases to see which display is showing readings from which detector. If you check this box, the detector information will be shown in the displays.

Waveform



These functions are related to the export feature of Ocean.

Style - Change the style of the waveform graph

There are three pre-defined styles of waveform graphs to choose from: Normal, Paper and Scientific.

Font - Select the font size for the waveform graph

There are three possible sizes for the text in the waveform graph: Small, Medium and Large.

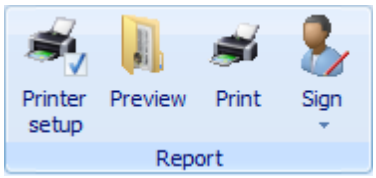
Line - Select the line width for the waveform plot

There are three possible line widths for waveform plotting: "Thin", "Normal" and "Thick".

3.5 Reporting

The functions for creating and editing reports as well as print the reports are found on the Reporting tab of the Ribbon Bar. a report or print out are found on the Ribbon Reporting tab. The report control functions are divided into Report functions and Setup functions and each group is described below:

Report



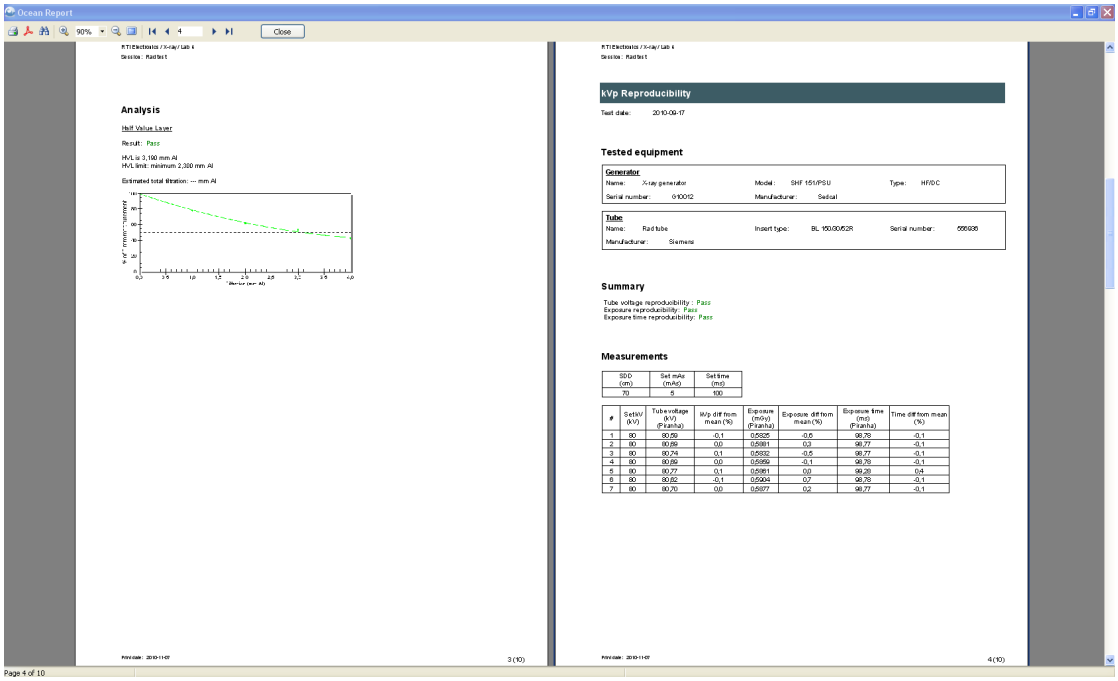
These are the functions you will use to generate a printed report.

Printer setup - Opens the printer setup dialogue

Click here to open the printer set up dialogue.

Preview - Preview the report on the screen

This is a print preview function that allows you to see what is in your report and how it will appear on the pages when it is printed.



Click to compress

There is a menu available at the top of the window picture below:

Click to compress

If you want to create a PDF file to send to someone, click the PDF button.

Print - Print the report

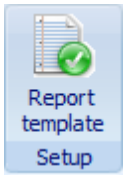
Use this button when you want to print your reports.

Sign - Click here to sign the report

You can specify a signature that can be used to digitally sign the report. A signed report is locked from further modification. Read more in section Signing.

If you click on this button and the report is already signed, you will be asked if you want to remove the signature.

Setup



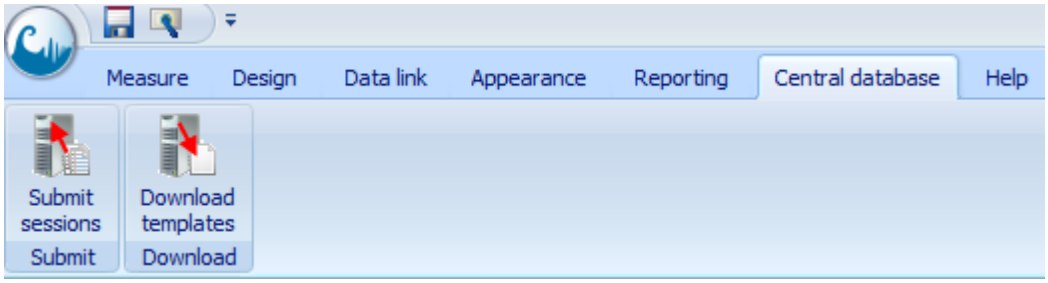
Here you can modify the report template that defines the layout for the report.

You can here select report template or modify current report.

3.6 Central Database

This section is only relevant if you use Ocean Central. Ocean Central allows you to directly connect via a local network or internet to a computer that has a central Ocean database.

Functions are divided into two groups:

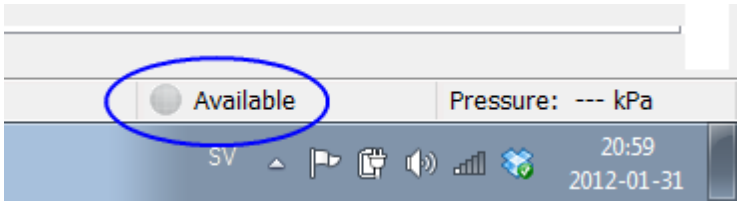


Click to minimize

Submit
Functions for submitting measured data to Ocean Central.

Download
Functions for downloading templates from Ocean Central.

There is an indicator on the lower Status bar that shows when you are connected to Ocean Central (via a local network or via internet):



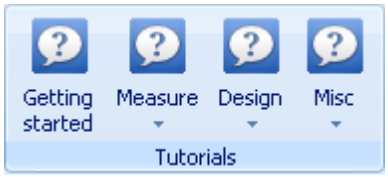
3.7 Help

The help system contains topic by topic detailed information on Ocean's many features and functions to help you get the most out of Ocean. You can easily access the help system by clicking on the Help tab on the Ribbon bar if you are not sure how to use a certain function or feature.

Help

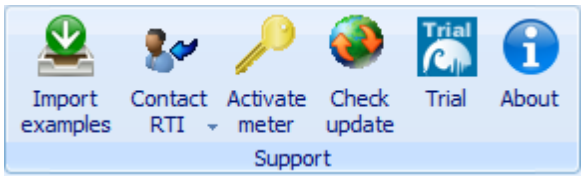
These two buttons give you quick access to the help system table of contents and the FAQ section.

Tutorials



We have added these tutorials to help you get started with Ocean quickly and efficiently.

Support



This section is for you to use if you need to report an error or get some example templates.

Import examples

Click on this button, and you can import new example templates into Ocean to help you get started. This function is useful after an update if new examples are available. For further reading see topic Import Examples.

Contact RTI

Use this button if you want to contact RTI or report a problem or suggest an improvement. There are two choices:

- **Review** - Send comments, suggest improvements and new functions.
- **Make support file** - Create a support file to report a problem or suggest an improvement. For further reading see topic Create support file.

Activate meter

Use this button to install a new license into your meter. For further reading see topic Activate meter.

Check update

This function will check if you are running the latest Ocean software and meter firmware. Note that the meter firmware is only checked when your meter is connected to Ocean. To use this feature your computer must be able to use the internet.

Trial

Click this button if you are using Display or Connect and want to try a higher license level with your meter. You then get a 45-day trial period. Please note that you can only do this once.

Note: You can click on this button at any time if you want to try another license level without a meter connected. For further reading see topic Trial.

About

Clicking this button shows the program version and contact information.

Database

We have added these features to manage your database.

Import

You can import site information from

- Facilities, rooms,generators and tubes from oRTIgo (or the Canadian version XR).
- Facilities, departments, rooms, generators, tubes and user-defined equipment from Excel or Calc.

oRTIgo is not using "Departments" as Ocean does. All departments for imported facilities in Ocean will be named "Department".

Backup

Click on this button when you want to make a backup of your database. A dialogue will be shown asking you to choose where you want to store the back-up file. It is highly recommended that you back up your data on regular basis.

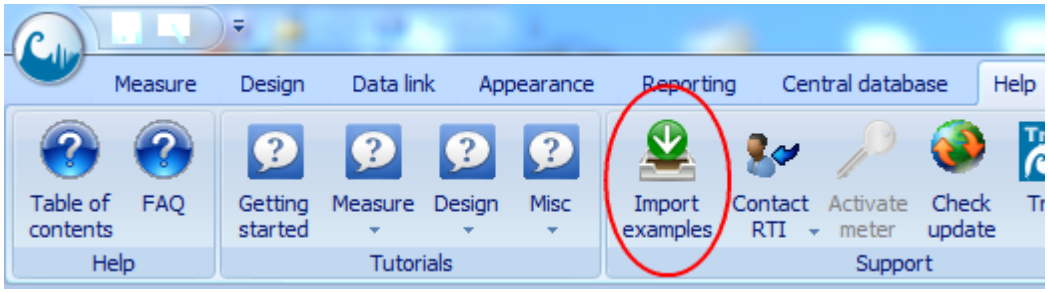
Location of the database file

Depending on the operating system you have, the database file can be found at the following location:

XP: Documents and Settings\All Users\Application Data\RTI Electronics\Ocean
Vista or Win7: ProgramData\RTI Electronics\Ocean

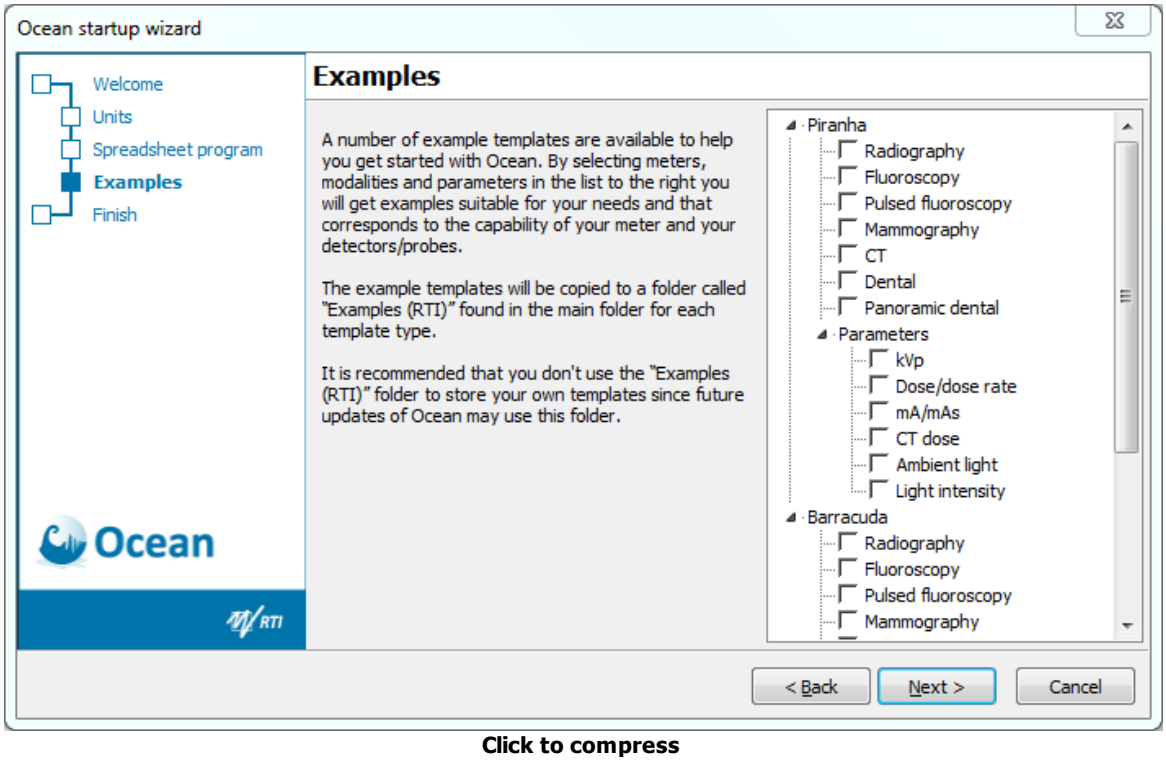
3.7.1 Import examples

When you installed Ocean you had the opportunity to load example templates ready to use directly. You can at any time import more examples (if you didn't select all of them when you installed Ocean or after an update). Go to the Help page and click on Import examples.



Click to compress

The Ocean Setup Wizard starts. Click on the Next button until you come to the Examples page.


Ocean startup wizard
Welcome
Units
Spreadsheet program
Examples
Finish
Examples
A number of example templates are available to help you get started with Ocean. By selecting meters, modalities and parameters in the list to the right you will get examples suitable for your needs and that corresponds to the capability of your meter and your detectors/probes.
The example templates will be copied to a folder called "Examples (RTI)" found in the main folder for each template type.
It is recommended that you don't use the "Examples (RTI)" folder to store your own templates since future updates of Ocean may use this folder.
Piranha
Radiography
Fluoroscopy
Pulsed fluoroscopy
Mammography
CT
Dental
Panoramic dental
Parameters
kVp
Dose/dose rate
mA/mAs
CT dose
Ambient light
Light intensity
Barracuda
Radiography
Fluoroscopy
Pulsed fluoroscopy
Mammography
Ocean
RTI
< Back
Next >
Cancel

Click to compress

Select the modalities and parameters you want to load examples for.

Note!
Existing examples will be updated if you reload examples you already have loaded before. Make sure, if you want to modify an example template, to copy it to another place.

Chapter 4

Frequently asked questions

4 Frequently asked questions

This topic covers questions frequently are asked by Ocean users. The questions are organized by category.

4.1 General

Where can I find the reference manual?

Open the documentation folder on your product CD. Go to the Ocean folder and look up the file "Ocean - Reference Manual - English v1.0A.pdf".

I don't have a licence in my meter. How can I get one?

Every Ocean user must have a license to use Ocean. The free Display license is available for anyone by sending a request to RTI Electronics AB website at http://www.rti.se/try-ocean-for-free/. If you want to purchase the Connect or Professional license for your existing Piranha or Barracuda, or if you wish to purchase a new meter and Ocean, please contact your local distributor.

Can I make a back-up of the database?

Yes you can. Go to the help tab on the ribbon bar and click on the button Back-up.

Where is the Ocean database located?

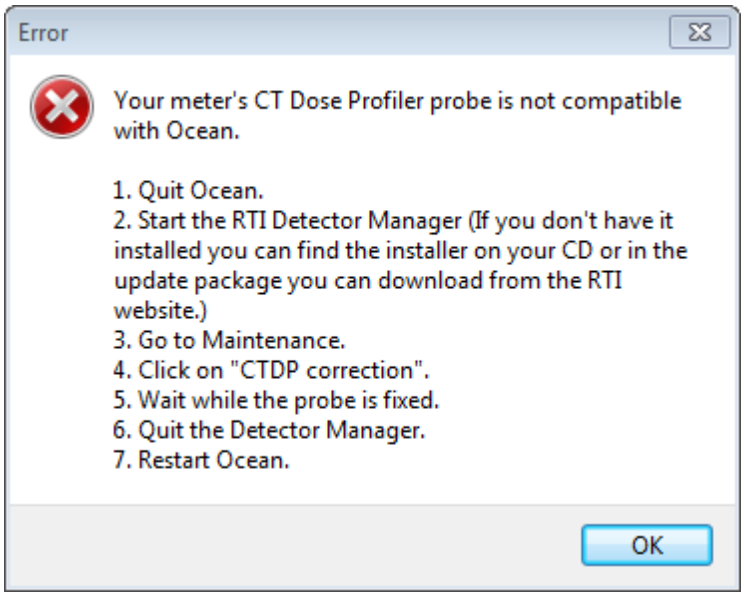
XP: Documents and Settings\All Users\Application Data\RTI Electronics\Ocean
Vista: ProgramData\RTI Electronics\Ocean

Can I import data from Ortigo?

You can import site data (facilities, rooms, generators and tubes) but not templates and measurements.

I get a strange message when I use my CT Dose Profiler probe?

Ocean says that the CT Dose profiler is not compatible and shows the following message:


Error
Your meter's CT Dose Profiler probe is not compatible with Ocean.
1. Quit Ocean.
2. Start the RTI Detector Manager (If you don't have it installed you can find the installer on your CD or in the update package you can download from the RTI website.)
3. Go to Maintenance.
4. Click on "CTDP correction".
5. Wait while the probe is fixed.
6. Quit the Detector Manager.
7. Restart Ocean.
OK

Click to compress

Piranha CT Dose Profiler Probes delivered before March 2012 has incorrect detector type stored in its memory. THis must be corrected before it can be used. THis is done, as described in the message, with the Detector Manager.

I have a CT-SD16 probe, why can't I see it in Ocean?
Ocean is not supporting this probe. You have to upgrade to a CT Dose Profiler probe if you want to measure CT dose profiles with Ocean.

4.2 Measuring

Why isn't the analysis giving a result, it is just showing "---"?
The analysis cannot do the required calculations. This is normally caused by:

- A missing measured value (too few measurements).
- There is a measuring error of some kind.
- A set value is missing or not specified correctly.

Ocean is not connecting to my meter?
If you are using USB, please check that the cable is connected properly. If you are using BLUETOOTH, open Windows BLUETOOTH device window and verify that your meter is listed as a know BLUETOOTH device. If it is listed but you still can't connect, delete it and use "Find nearby devices" to re-connect.

My measured data was not saved. Why?
You are maybe working with a template in design mode. When you click on save in design mode, only the template is saved. You must be in Log mode if you want your measured data to be saved.

I cannot edit a set value in a test. Why?
This normally happens when you are working with a session and the template you are trying to edit not open (active). You can look at all tests/checklists in a session, but you can only modify the one that is currently active.

Where can I specify the scatter factor?
In Ocean the scatter factor is called "Beam correction factor". This factor can be used to apply a correction on the measured exposure or exposure rate. You can find this parameter on the meter adjust tabs for exposure detectors or in the grid if specified as column or general setting.

4.3 Data export to Excel or Calc

Can I export certain cells from an Ocean test to Excel?
Yes you can. You can use something that is called "Cell-to-cell". You can then "link" individual cells in Ocean with individual cells in Excel or OpenOffice Calc. By doing this, you get full control over where your data appears in the spreadsheet. You can read more in the topic Link a session to Excel (or OpenOffice Calc).

4.4 Design

I cannot edit a set value in a test. Why?
This normally happens when you are working with a session and the template you are trying to edit not open (active). You can look at all tests/checklists in a session, but you can only modify the one that is currently active.

Can I change the acceptance limits in a test?

Yes. Right-click on the analysis window and click on "Modify analysis", select the analysis you want to change the limits for. The limits are now shown and you can modify them. Read more in topic Acceptance limits.

Can I have different acceptance limits for each row in a test?

Yes. Right-click on the analysis window and click on "Modify analysis", select the analysis you want to change the limits for. The limits are now shown and you can modify them for individual rows. Read more in topic Acceptance limits.

What is a template?

There are four different types of templates:

- Test template
- Checklist template
- Session template
- Real-time display template

A template is an object without any measured data but with all other necessary information to perform a measurement and required analysis.

I want to see my exposure values both in "R" and "mGy". Can I do that?

Yes. You can just right-click on the column head and select "Unit" from the menu. If you are working with a real-time display, just click on the unit in the display. A list with available units is shown, select the unit you want.

Where can I specify the scatter factor?

In Ocean the scatter factor is called "Beam correction factor". This factor can be used to apply a correction on the measured exposure or exposure rate. You can find this parameter on the meter adjust tabs for exposure detectors or in the grid if specified as column or general setting.

4.5 Reporting

Why don't I get any waveforms in the report?

There are no waveforms included in the report by default. You must select waveforms you want to appear in the report manually. To include a waveform in the report, right-click on a row in the grid and select "Include waveform(s) in report".

Can I exclude columns from the report?

Yes. It is possible to exclude columns (and other items) from the report. To exclude a column from the report, right-click on the column heading. Uncheck "Include in report" to remove the column from the report.

Can I design my own report?

No. The report template is fixed at this time.

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